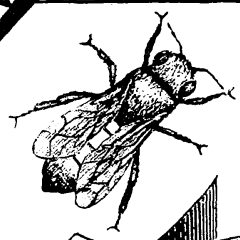


THE AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE

Established in 1861, at Washington, by the late Samuel Wagner.

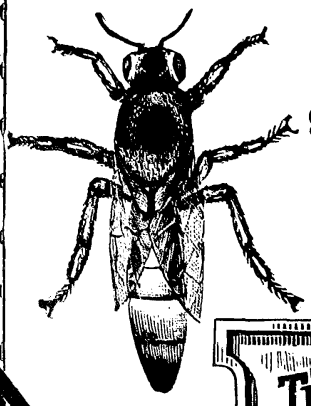
"Bees work for man; and yet they never bruise
Their master's flower, but leave it, having done,
As fair as ever, and as fit for use."

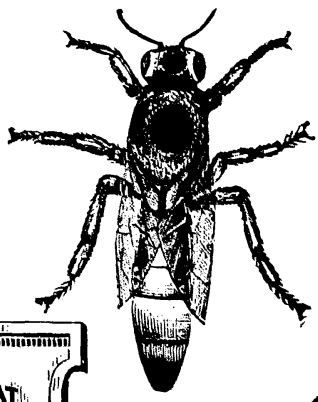
"Ye light-winged laborers! still unwearied range
From flower to flower, your only love of change!
Still be your envied lot—communion rare—
To wreathe contentment round a brow of care!"

"Free as the air, yet in strict order joined,
Unnumbered bodies with a single mind!
And mingling multitudes perplex the view
Yet all in order apt, their tasks pursue."

DR. EVANS.

VOLUME XIV.





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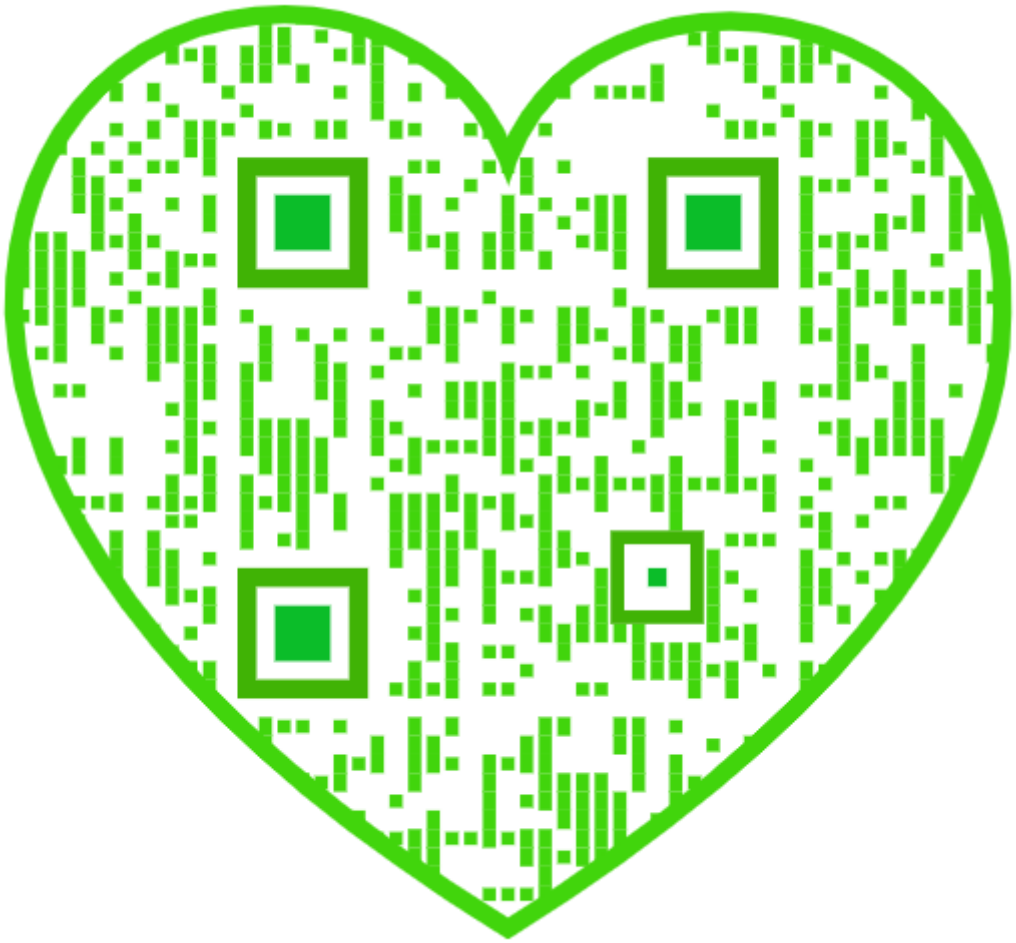

The White Sage of California.

INDEX TO CORRESPONDENTS.

Amiel, Moosh, 76.
Alley, H., 7, 28, 133, 163, 216, 258, 278, 315, 402.
Anderson, H. A., 35.
Argo, R. M., 42, 46, 161, 319, 433.
Allen, Dr. N. P., 46, 57, 151, 206, 284.
Ashcom, Wm., 58, 329.
Atkinson, John, 58.
Anthony, R. H., 77.
Armstrong, J. C., 150.
Andrews, W. H., 151, 216.
Andrews, W. J., 152, 179, 353.
Anderson, Jas., 159.
Alsike, 208.
Allen, Ransom, 208.
Aylor, R. L., 245, 361.
Axtell, Mrs. L. C., 282, 321.
A Novice, 283, 362.
Argus, 202.
A Subscriber, 312.
Allen, J. W., 359.
Aiken, R. C., 361.
Atkinson, W. J., 362.
Allen, C. P., 422.

Barber, Ira, 9.
Bence, Wm., 15.
Bingham, T. F., 25, 60, 132, 188, 211, 247, 286, 290, 325, 366, 404.
Betsinger, N. N., 34, 131, 207, 393.
Boutelle, D. R., 42.
Butler, Jos., 50, 54, 211.
Baker, Mrs. L. B., 51.
Bittenbender, J. W., 57.
Balch, A. C., 76, 325.
Bangs, Fisk, 85, 152, 275.
Boyer, W. L., 97.
Breed, J. E., 99, 243.
Barnes, W. F. & John, 105.
Bledsoe, O. F., 110, 179.
Bailey, M., 145.
Burbank, D., 146.
Bush, R. E., 147.
Beecher, D. I., 148.
Burt, C. S., 148, 362.
Bucklew, J. A., 148.
Burch, H. A., 164, 210, 437.
Baker, M. S., 184, 278, 286.
Brasel, T., 191, 235.
Barfoot, John, 207.
Barnum, B. B., 211.
Brooks, Jos. M., 212, 244, 247, 273, 350.
Blood, C. W. & A. H. K., 238.
Benton, Frank, 18, 39, 95, 108, 181, 218, 239, 241, 270, 297, 323, 374, 409, 413.
Bosworth, W. V., Jr., 247.
Brown, Dr. J. P. H., 268.
Bartgis, D., 282, 360.
Brown, H. H., 284, 286.
Bupp, J. H., 322, 359.
Barnett, A. M., 323.
Baldridge, M. M., 325, 354, 421, 427.
Bliss, R., 331.
Butler, Dr. S. S., 353, 362.
Baker, Dr. W. B., 354.
Boyd, W. S., 360.
Brewer, Joel, 360.
Brumme, Dr. Carl, 362.
Bair, Add., 363.
Bottsford, A. E., 363.
Becktell, R. S., 363.
Buterow, Prof., 374.
Bidwell, H., 409.
Bayard, N. J., 415.

Conklin, H. W., 6, 142, 151.
Clement, W., 9, 147.
Clute, O., 12, 43, 74, 174, 202, 367, 412.
Cowie, Geo., 28.
Cameron, N., 34, 120, 252.
Cheney, A. B., 52, 168, 441.
Crandall, C. M., 56.
Connelly, J. T., 56.
Cady, J. E., 57, 432.
Campbell, R., 58.
Cook, Prof. A. J., 71, 80, 216, 218, 246, 247, 248, 253, 271, 283, 284, 295, 309, 311, 321, 325, 329, 345, 370, 373, 387, 407, 415, 422.
Clark, M. C., 102.
Corn-Cracker, 122.
Claussen, F., 129, 150.
Coleman, J. H., 141.
Carlin, Dr. C. R., 141.
Corbett, R., 146.
Courtney, O., 149.
Cooley, O. E., 151, 402.
Cam, Wm., 158, 208.
Curtis, S. L., 167.
Cobb, W. L., 180.
Caldwell, J. V., 192.
Clough, C. R., 207.
Chadwick, Jas. D., 209.
Collins, F. F., 213, 403.
Cyrannus, F. H., 214.
Chandler, C. W., 258.
Cori, Chancellor, 271.
Clute, M. F., 303.
Colburn, R. J., 310.
Coltrin, Mrs. N. P., 311.
Crosby, A. M., 321.
C. C. C., 323.
Creole, 323.
Carpenter, W. O., 341.
Clifton, D., 364.
Cutting, H. D., 409.
Carrott, M. W., 439.
Comings, F. W., 431.

Dadant, Ch. & Son, 9, 82, 126, 162, 208, 211, 275, 282, 318, 353, 376, 429.
Dickinson, G. W., 9.
Davis, Jno. L., 9.
Davis, F. R., 10, 178, 259.
Dodge, S. C., 12, 38, 109, 110, 154, 179, 432.
Doolittle, G. M., 14, 45, 70, 94, 98, 242, 248, 296, 331, 350, 370, 376, 417.
Dilley, C. F., 54, 147.
Dart, R., 56, 308.
Duncan, Paul, 56.
Dick, Mrs. J. W., 57, 247.
Dunham, Mrs. F. A., 72, 141, 198, 210, 320, 325, 433.
Davis, J. S., 109.
Dille, A. B., 133.
Deupree, D. M., 134.
Dibbern, C. H., 148, 156.
Delzell, T. T., 176.
Dennler, M., 182, 218.
Dickinson, C. G., 206.
Day, L. E., 209.
Drane, E., 220.
Dyer, Wm., 242, 321.
Dodge, H. C., 269.
Dunstrude, T., 272.
Day, E. B., 329.
Detwiler, John Y., 351, 370, 416.
Darling, Wm., 358.
Davis, Nathan, 359.
Dipman, John F., 361.
Dodds, T. J., 416.
Dick & Bro., Thos. H., 431.
Douglass, E. R., 407.

Everitt, Wm. P., 10, 283.
Elwood, P. H., 13, 93, 106, 223, 248.
Edwards, H. D., 57, 218, 354.
Eggleston, John F., 119, 132, 362.
Eggleston, C., 131, 161.
Everett, B. O., 139, 177.
Enos, J. D., 241.
Eckles, R., 244.
Edwards, Edwin S., 283.
Emerick, W., 323, 403.
Eckenberry, E., 360.
Emerick, Lee, 432.
Erwin, Jas., 431.

Fabius, H. K. W., 6.
France, E., 9, 147, 185, 207, 362.
Fiorini, Jos., 18.
Fahnestock, A., 28, 196, 400.
Flick, H. H., 58, 390.
Fox, Chas. J., 75, 107, 113, 410, 434.
Finn, C., 99.
Frost, C. L., 132.
Fox, G. E. R., 146.
Flory, J. F., 146, 211, 257.
Felton, E. W., 147.
Fehr, Jas. E., 221, 403, 420.
Franklin, D. L., 244.
Foreman, Dr. A. W., 348.
Franklin, B., 358.
Fullilove, John H., 361.

Green, W. H., 13.
Gould, A. L., 18.
Gillett, E. C., 55.
Gravenhorst, C. J. F., 96.
Goodno, M. W., 98.
Graves, C. A., 147.
Green, W. C., 157.
Gast, G. L., 160.
Greening, C. F., 162.
Godfrey, E. D., 173.
Gordon, W. L., 175.
Gatter, H., 182.
Given, D. S., 237, 354.
Granger Kate, 270.
Grimm, Geo., 289.
Garlick, G., 359.
Glazier, C. E., 361.
G., 373.
Garrett, H. W., 400, 410, 422.
Grohman, F. J., 414.

Hollett, T. N., 6.
Hetherington, Capt. J. E., 8, 248.
Haines, H., 9, 151, 211, 242, 259, 290.
Hubbard, C. S., 9.
Hammitt, S. S., 12.
Hamilton, H., 24.
Heddon, Jas., 24, 58, 72, 89, 118, 121, 193, 398, 436.
Hart, Rev. A. H., 56, 146, 433.
Haney, A. J., 58.
Harbison, J. S., 67, 295, 434.
Hastings, Chas., 68, 104.
Hardinger, F., 97.
Hibbard, C. D., 120.
Hasbrouck, Prof. J., 126, 146, 384.
Hotchkiss, C., 132.
Hilton, W. W., 134.
Henderson, W. P., 147.
Hunter, J. E., 147.
Hollom, W., 150.
Henderson, J. W., 151.
H. D. G., 151.
Heath, Dr. S. H., 164.
Houghtaling, E. S., 219.
Halbleib, Otto, 219, 431.
Hershey, J. F., 225, 431.
Hersperger, H. C., 229.
Hart, James F., 239.
Hartford, H. H., 242.
Howell, J. W., 247.
Hetherington, O. J., 248, 252.
Hippolite, Dr. W. W., 255.
Hamilton, Dr. Geo., 284.
Henderson, G., 293.
House, Walter B., 328.
Harrison, Mrs. L., 360, 368.
Hoge, W. M., 370.
Hogarty, W. P., 373.
Horner, Geo. W., 402.

Isham, C. R., 208.
I. O. U., 354.

Jenkins, G. W., 10.
Jackson, J. W., 10.
Johnson, J. W., 28.
Jackson, W. K., 207.
Jones, Dr. Jesse R., 242.
Jones, J. L., 254.
Jordan, E. C., 255.
Junger, M., 270.
Jones & Stillman, 284.
Jewett, S. L., 358.
Jordan, Mrs. M. C., 359.
Jones, George W., 359.
Jackson, Wm. J., 439.
Jones, E., 416.
Jeffrey, H. L., 430.

Kellogg, W. M., 9, 23, 203, 242, 433.
Kellar, D. H., 44.
Kepler, D., 48, 282.
Knowles, Jas., 55.
Kendig, C., 98.
Kedzie, R. C., 128.
Klosterman, H., 148.
Kretchmer, E., 211, 235, 264, 427.
Knoll. D. K., 97, 220, 323.
K. 268.
Kearns, Rev. J. E., 284.
Keeler, D. W., 312.
King, A. J., 379, 409.
Knoblauch, Pastor, 414.
Keippart, John H., 433.

Lynch, Wm. W., 10.
Lawrence, G. D., 13.
Larch, Dr. E. C. L., 13, 399.
Lunderer, B., 17, 159, 312.
Lindsley, L., Jr., 27, 241.
Lehman, John, 58.
Locke, S. M., 92, 194.
Lee, Mrs. I. D., 97, 373.
Leonard, W. C., 134, 282.
Lashbrook, T., 168.
Lamport, M. G., 182.
Levering, N., 193, 215, 222, 279.
Langdon, Dr. W. O., 210.
Lingle, B. M., 218, 323.
Leonard, T. D., 220.
L. Z. D., 220.
Lantz, L. Z., 274.
Lloyd, W. H., 276.
Lee, James R., 306.
Loehr, M. E., 322, 325.
Lisk, H. B., 359.
Lewis, G. B., 368.
Langstroth, Rev. L. L., 404, 406, 407, 408, 409, 418.
LeDuc, Gen., 433.

Mason, H. D., 10.
Moon, A. F., 13, 38, 39, 134, 154, 211, 243, 267, 290, 306, 349.
Muth, C. F., 35, 64, 69, 391.
Mahin, Rev. M., 42, 163, 186, 247, 316, 376, 433.
Marshall, W. K., 44, 58.
Muth, Geo., 54.
McColm, J. N., 55, 133.
McFatridge, 58.
Murphy, R. R., 63, 98, 148, 294, 359.
Mayerhoeffer, R., 67, 95, 108, 181, 271, 372, 414.
McLean, S. D., 69, 110, 268, 308.
Martin, John H., 86, 107, 145, 290, 328.
Manum, A. E., 87, 167.
Moore, J. E., 97, 237, 280, 360, 365.
McGaw, T. G., 99, 134, 179.
McKinley, B. V., 99.
Mitchell, N. C., 99.
Mobley, G. H., 100.
Metcalf, Martin, 104.
Morris, W., 133.
Merriam, G. F., 134.
McDougall, G. P., 140.
McNell, J. W., 147.
Milster, M. H., 148, 329.
Matthews, R., 150.
Marsh, S. K., 182, 192, 212.
Miller, Dr. C. C., 207.
Muth-Rasmussen, W., 208, 286, 304.
Martin, C. G., 211.
Maryatt, G. W., 211.
McMaster, M. E., 215.
McMurchy, G. W., 243.

Mackay, Hon. A., 269.
Moore, Tom M., 282.
Murray, John, 307.
McKown, C. W., 310.
McNitt, E., 360.
Murray, J. B., 361.
Millett, Rev. D. C., 402.
McBride, W. E., 420.

Newman, T. G., 26, 204, 378, 382, 399.
Noble, H. M., 35.
Needham, James, 55.
Nellis, J. H., 114, 248, 377.
New Sub., 252.
Norton, D. P., 219, 283, 329.
Nutt, W. C., 219.
Newman, M. A., 321.
Novitiate, 427.

Oldt, R. B., 34, 139.
Olm, C., 98, 100.
Oatman, J. & Sons, 139, 208.
Owen, A. C., 208.
Otis, R. C., 233.
Oldham, S. M., 321, 348.

Palmer, D. D., 5, 23, 46, 63, 81, 123, 155, 193, 226, 234, 264, 286, 316, 329, 352, 433, 420.
Parlange, Chas., 8.
Parmly, Dr. E., 16, 28, 47, 197.
Porter, W. L., 54.
Poindexter, Geo., 54.
Pratt, B. F., 55.
Pruyn, J. M., 56.
Perry, F., 56, 432.
Purvis, L. G., 82.
Parks, A., 97.
Porter, J. W., 125, 240.
Price, J. M., 130.
Perrine, C. O., 138, 293, 335, 367.
Parker, O. W., 146.
Pickup, E., 146, 432.
Porter, Wallace, 147, 208.
Patterson, Jacob, 149.
Pike, D. A., 150, 151.
President Patterson, 226.
Pike, Edwin, 235, 358.
Plummer, Isaac F., 242.
Pierce, Warren, 243, 280, 319.
Pelham, Isaac E., 243, 362.
Potter, L., 244.
Pelham, Wm. C., 273.

Peter, James, 313.
Peters, Dr. H. J., 285.
Parker, W. D., 296.
Pratt, Dr. J. R., 320.
Perry, George L., 325.
Pierson, W. H., 361.
Parsons, Dr. S. P., 396.
Putnam, John M., 407.

Quinlan, T. B., 147, 369.
Quinby, C. J., 248, 433.
Quick, S., 283.

Russell, A. H., 5, 159.
Rush, Dr. W. B., 33, 190, 238, 432.
Root, L. C., 43, 142, 166, 286, 438.
Rusticus, Jno., 54.
Roberts, John, 56, 67.
Roberts, L. M., 98.
Reed, W. L., 100, 104.
Root, A. I., 123.
Richardson, M., 132.
Ray, O. L., 134.
Roop, Hiram, 147, 207, 242.
Rainey, W. S., 147.
Robinson. F., 149.
Reynolds, A., 149, 278.
Rule. Rev. J., 158.
Rooker, John, 207, 283.
Rust, Albert D., 209, 259, 274.
Rolfe, H. B., 236.
Rotschultz, Baron, 269.
Reist, P. S.. 283, 343.
Reisser, Dr., 298, 414.
Reed, L., 322.
Riley, J. H., 323.
Ralston, James, 360.
Rockafellow, E. J., 402.

Soden, G. C., 6, 359.
Snell, F. A., 9, 55, 97, 148.
Sawyer, O. L., 9.
Snyder, A., 28.
Shimer, I. H., 33, 150.
Sheldon, A. S., 55.
Schofield, W. A., 56, 219.
Smith, J. L., 56, 207.
Stanhope, E., 57..
Smith, C. T., 57, 145, 244.
Simonds, H. A., 58.
Scovell, H., 58, 99.
Sage, F. I., 75, 242, 284, 286.
Smith, J. T., 97.
Saunders, Anna, 98, 244, 421.
Sutliff, L., 99, 133, 176, 213, 323.

Stark, E. C., 102.
Salisbury, Rev. A., 124, 289, 310, 347, 403.
Southard, W. B., 134.
Spear, O. W., 134.
Sperry & Chandler, 141.
Sharp, Isaac, 148.
Scheerer, John, 148.
Stoddard, J., 151.
Schofield, E. J., 152, 321.
Subscriber, 154.
Sears, W. T., 156.
Sonne, C., 188, 316, 320.
Saunders, H. W., 206, 364.
Sawyer, Dr. S. J., 211.
Simon, Charles, 212.
Sinclair, E. W., 233.
Shuck, J. M., 242, 331, 433.
Squires Bros., 244.
Shearer, Rev. J. W., 253.
Scovell, H., 259, 284, 331, 373, 409.
Sedgwick, W. H., 283, 367.
Southard & Ranney, 325.
Slack, J. D., 346.
Stevenson, J. B., 358.
Stiles, A., 359.
Stump, W., 359.
Shearman, J. O., 360.
Sprague, Geo. H., 361.
Snyder & Son, M., 361.
Spalding, Milo, 368.
Smith, Dr., 396.
Stephenson, H. W., 402.
Smith, John H., 403.
Spedding, Wm., 409.

Thomson, Wm., 47, 139, 140.
Todd, R. S., 54.
Thurber & Co., H. K. & F. B., 60, 106, 369.
Turner, T. E., 117.
Thompson, George, 124, 276, 283.
Thomas, John A., 149.
Thom, Dr. J. C., 150.
Tennesseean, 153.
Todd, Arthur, 178.
Towle, W. C., 192.
Truax, Joseph, 242.
Triem, L. L., 244.
Tremontani, D., 255.
Taber, L. A., 285.
Turner, R. S. 329.
Tallman, J. B., 330.
Taylor, R. C., 336, 373, 432.
Townsend, O. H., 373.

Utiger, R. D., 54.

Vail, S. L., 10, 147.
Videto, D., 57, 366.
Valentine, J. M., 97, 279, 403.
Valiquet, Thos.. 133.
Viallon, P. L., 173.
Van Allen, T. H., 173, 175, 198, 364, 400, 410.
VanAnglen, Hon. H. S., 209.

Williamson, W., 9, 231, 313, 320, 402.
Wolcott, Will H., 9.
Wright, A., 54.
Whiting, L. C., 54, 438.
White, H. C., 55, 140.
Wilson, Dr. I. P., 74, 198, 347.
Wainwright, L. M., 102, 220, 282.
Walcher, J. E., 132.
Winfield, J., 134, 361, 368.
Walton, W. G., 134, 370, 372.
Worrall, Dr. E. P., 146, 207.
Ward, T. J., 147, 329.
Wellington, Ed., 148, 358.
Williams, A. S., 151.
Wright, H. O., 178.
Winder, J. W., 180, 269.
Wood, J. S., 189.
Walton, H. F., 208.
Willard, W. J., 209, 361.
Williamson, J. H., 209.
Wells, W. C., 216.
Ware, W. H., 233, 290, 328, 384.
Walrath, G. A., 236, 364.
Williamson, Julius C., 321.
Wilson, Ira, 327.
Williamson, J. T., 348, 432.
Wilcox, F., 358.
Williams, W. F.. 364.
Wentworth, W. P., 372.
Watkins, L. B., 415.
Willers, A. C., 416.
Waterhouse, John W., 416.

X Y Z, 256.

Young, P., 17.

Zimmerman, G. W., 130, 133, 138.

THE AMERICAN

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VOL. XIV. CHICAGO, ILLINOIS, JANUARY, 1878. No. 1.

Editor's Table.

☞ Corks for honey jars should be cut across the grain, to prevent leakage.

☞ The Reports of Conventions in this issue have crowded out considerable matter that was already in type.

☞ The plant sent by Mr. Moore, of Shelbyville, Ky., is not a shrub, but an herb. It is an aster—of course good.

☞ Dr. J. P. H. Brown, is the first on hand with his Circular for 1878. It is neatly gotten up, and contains much information.

☞ It takes two years to raise teasel. It is grown by farmers to sell to cloth manufacturers. We do not think it would pay to raise for the honey, alone.

☞ The time has come to prepare for next season's operations in the way of hives. It is not advisable to wait till they are needed before ordering.—Several did this last year, and as every one was in a rush just then—many were sadly disappointed. We would therefore urge all to order at once, and then time enough will be allowed to be *sure* to have them on hand when needed.

☞ As we were in doubt about the advisability of adding a Small Fruit Department, we submitted the question in our last issue. The answers are almost universal in opposition to it.—Our readers want all the energies of THE BEE JOURNAL devoted to Bees and Honey, and in this they shall not be disappointed. We shall do our "level best" to make the volume for 1878 excel all its predecessors.

☞ While at the Michigan Convention, we were entertained by friend Russell, and made the acquaintance of many Michigan apiarists. Mr. Russell has 140 colonies in the cellar, in excellent order, and a few on their winter stands. His is a combination of the movable-frame and bar-hive, and susceptible of changing size at will. For wintering out of doors, he uses heavy paper over the frames, and makes it double, by sliding the cover down over the brood chamber. One of his hives has been added to our Museum.

☞ A correspondent writes: "I see Mr. Betsinger claims to be the first inventor of a sectional hive. Barker & Dicer, of Marshall, Mich., claimed the same thing, I believe, in the AMERICAN BEE JOURNAL for March, 1874. Will Mr. Betsinger tell the readers of the JOURNAL in what year he invented his box, and I should like to hear from Barker & Dicer on the subject, also. 'Honor to whom honor is due.' I am using a section box and am interested to know who is the inventor."

☞ Friend D. D. Palmer has just returned from New York, whither he went with a car-load of comb honey, which he sold to Thurber & Co., and brought the cash, nearly $3.000 home with him. He says, honey is retailing in N. Y. at from 25 to 30 cts. per lb.—He has inspected surplus boxes of many styles on his trip, and says he had learned enough to pay him well for his time and trouble. Much of his honey was in California frames, but he wants no more to take to market that is not glassed. He spent a few pleasant hours with us, both on going and returning. A friendship of nearly a score of years made the occasion the more interesting and agreeable.

Prize Honey Boxes and Crates.

For the convenience of those who wish to have their honey in "the most marketable shape," we have had a lot of these "Prize Boxes" and "Crates" made up, and can send a crate containing 12 honey boxes ready to put on the hives, to any one who intends to make their own, and desire a correct pattern to work from. Price 75 cents, delivered at any Express office in this city.

Glass, 5x6 inches, is put on *after* the boxes are filled with honey, and before packing in the Crate. As "glass" greatly increases the express charges, we do not put it in, unless expressly ordered. Glass 10x12 cut four, and can be procured anywhere at small cost.

We can also supply these Prize Boxes, ready to nail together, for $10 per 1,000 boxes, delivered at any freight depot in the city. Crates, ready to nail together, at $10 per hundred.

Those who intend to make their honey boxes should get a Barnes saw. It is the handiest thing you can imagine. Just as we are writing this, the following letter came to hand:

"Rockton, Ill. Dec. 24, 1877.

One can do anything with a Barnes saw. Every bee-man ought to have one. I would not take $100 for mine if I could not get another. I had 20 colonies in the spring, having sold down to that number. I have received from them over a ton of honey, mostly in boxes. I am well pleased with the comb foundation, and send you a frame to show how I fasten it in.

H. W. CONKLIN."

We can supply these Saws at manufacturer's prices.

PARIS EXHIBITION.—The following letter will explain itself:

DEPARTMENT OF AGRICULTURE,
WASHINGTON, Dec. 15th, 1877.

BEE-KEEPERS' ASSOCIATION: *Gentlemen.*—It will give me great pleasure to be of service to your Association in making a proper exhibit in Paris. It is my desire to have such an exhibition of our agricultural productions as will be worthy of the interest and of the country which it will represent. I shall be glad to have the assistance of those engaged in Bee Culture in making a proper exhibit of that industry.

WM. G. LEDUE, *Commissioner.*

☞ An accident to one of the forms of type after it was sent to the press, broke off several letters and mixed up some others. Hereafter THE JOURNAL will be printed in our own office, and such "accidents" and "blunders" will be avoided.

Oldt's Hiving Apparatus.

FRIEND NEWMAN,—You say you have a model of Oldt's Hiving Apparatus. Will you please describe it in THE JOURNAL?—I, as well as many others, wish to know what it is like. H. K. W. FABIUS.

This apparatus consists of a pivoted case, containing two inclined planes that run downward from slots in the top of the casing, over which the hives are placed.—One of the inclined planes is pivoted, and is capable of moving upward when the bees, having moved from the hive to the queen yard, changes the centre of gravity of the casing, so that it turns on its pivots. A mica trap-door allows bees to escape from the swarming hive, but does not permit them to re-enter.

The hive containing the bees about to swarm is placed over one slot, and an empty hive over the other. At that time the casing is balanced by the full hive, leaving the entrance open from it to the queen-yard below. When the bees leave the hive they pass down into the queen-yard, as soon as the swarms leave the casing tops, and the entrance to the empty hive is opened and the other closed. As the queen-yard has projecting glass sides, the queen does not go with the swarm. On the return of the swarm, they will enter the empty hive—from the queen yard—and finding the queen there, will go to work. Of course, the bees must be allowed to work through the slots only.

Friend Oldt has gotten up a very ingenious contrivance that may work well in some cases. Whether it will *always* do so, and whether it will *pay* to have enough for a large apiary are problems that time and experience will solve.

LATER.—Friend Oldt informs us that he has dispensed with the lever,—and now the bees may return by the same inclined step that they used when departing.

☞ In reply to G. C. Soden's letter, on page 420 of Dec. No., T. N. Hollett has sent us a long reply, which we have no room to publish in full, stating that the queens he sent Mr. S. were unwarranted 80c queens, and not tested! He says any one can get prompt redress, by writing him personally, if not satisfied with his dealings. The particulars of a personal controversy are uninteresting to our readers, and in future we shall not publish *complaints*. When we have positive *proof of unfair dealing*, we shall, of course, state the fact, but we know our readers have no relish for personal controversies.

☞ W. M. Kellogg wishes to know the names of the best botanical works for beginners. Gray's Lessons in Botany for analyzing, and Gray's School and Field Book, are the best.

☞ By request of many, we have gotten up a "Constitution and By-laws," suitable for local Associations, which we can supply with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 is ordered, they will have a blank left for writing in the name of the association, etc. A sample copy will be sent for a 3c. postage stamp.

☞ Our Stock of Vol. 1, AMERICAN BEE JOURNL is now exhausted; so we take it from our list of Books for Sale. "The Dzierzon Theory" which we have re-published in pamphlet form, now takes its place. It contains much that every bee-keeper ought to know, and is one of the most interesting and instructive little works ever published. Its low price (only 20 cents, postpaid,) places it within the reach of all.

HOGE'S CARRIER.—Here is a case where comb honey was carried on ox-wagons, steamboats and railroads, a distance of 2,250 miles, without breakage. This is a fact worth recording, we therefore give the proof:

DEADWOOD CITY, Dec. 17, 1877.
Messrs. H. K. & F. B. THURBER & CO., N. Y. City:
Dear Sirs:—Agreeable to promise we report: The ten cases comb honey purchased of you, packed in your patent *rubber-ball* cases, shipped from New York, Oct. 6th, '77. reached Deadwood, Dec. 6th, '77, having been in transit just 60 days, traversing about 1,000 miles via railroad, 1,000 miles via lake steamer, 250 miles in dead-axle ox-wagons (24 days); 2,250 miles. When opened, *not a single comb was found to be broken.* You can *frame* this if you choose. The cases can not be subjected to a more thorough test than these were. Yours truly,
[Signed,] MILLER & MCPHERSON.

SEND BY MAIL.—We have just received a package costing us 45 cts. for expressage. It weighed only 8 oz., and if sent by mail would have come just as safely for 8 cents. This is only one of the many; and we shall thank our friends to make a note of the following: Seeds or samples of any kind of merchandise can be mailed for 1 cent per ounce. Printed matter for 1 cent for each *two* ounces. *Don't send us any small packages by express.*

☞ Subscribers will please notice the date upon their subscription labels and see that they are "up with the times."

REMOVAL.—In order to get more room for our constantly-increasing museum of implements for the apiary, we have removed our office to No. 974 West Madison St., where we have two floors 20x60 feet each. The Madison street cars (going west) pass our door, making it very convenient for those visiting the city to call on us.

☞ It is suggested that we get up a Petition to Congress to have the Postal Law amended to admit of Queens being sent in the Mails, as heretofore. We will in a few days get up Blank Petitions ready for signatures, which any one can have on application at this office, who will get them signed and returned to us by March 1st. We will then see that they are properly presented to Congress, and by a united effort try to have our voice heard. We ought to have 100,000 signatures, in 30 days. Who will take hold of the matter?

☞ In answer to H. L. Lankton's letter on page 422, Dec. No., H. Allen says there are two sides to such controverses; that he felt *insulted*, and hence wrote sharply, but will send the two queens due Mr. L. in the spring. A little of the *oil* of kind words, (on both sides, perhaps), will be productive of peace and harmony. We decline to publish, in future, details of all person, al controversies. They are neither pleasant nor profitable reading.

☞ Many complain of the dearth of small currency, all over the country. In reply to correspondents, we will say that *Postage Stamps*, of any denomination, can always be obtained at every country post-office; and when currency cannot be had, we shall receive such stamps for anything desired from this office. 1, 2 *and* 3 *cent stamps preferred.*

☞ Paper made expressly for the covers of THE BEE JOURNAL did not arrive from the mill in time for this issue. Hereafter it will have a nicer cover and be of uniform color.

☞ When you have a leisure hour or evening, why not drop in on a neighboring family and see if you cannot get a subscriber for THE AMERICAN BEE JOURNAL?

Marketing Honey.

This department will be devoted to items of interest concerning Packing, Selling and Shipping Honey and Beeswax.

HOW TO PREVENT THE ADULTERATION OF HONEY.—We believe the successful solution of this problem, to a very considerable extent, lies in the hands of the producers. If we all join in an earnest effort, it will only be a question of a season or two when an end will be put to this nefarious business. We want through our local papers and personal intercourse to school dealers and consumers in selling and buying *candid* honey. Ring all the charges of purity, flavor and price.—Packing comb honey into glass jars opens the door for adulteration; now, we want to stop this, and we can effectually,—but we fancy that we hear some dealers sing that same old song that "broken, comb honey must be saved, and this is the only way to do it." Producers will stop sending broken combs, stop shipping piece boxes, extract the honey from all such, and market only those frames, or caps that are well secured all around. Such honey can be transported all right.—Harbison never has any claims against him for broken honey, and he collects his crop from all over San Deigo county, California, sends it to San Francisco where he breaks bulk, and re-ships to New York. It is said his combs are seldom broken. He attributes his success to the fact that he never crates frames in which the combs are not well-secured all around, and cells capped. If producers would all do that, their honey would reach consumers nice and dry, and dealers would hear no excuse for cutting up the combs and packing them in jars.

Strained honey sells for 40 and 45 cents per gallon in San Domingo and Havana.

The amount of sugar annually consumed in Great Britain is 900,000 tons, being about 60 lbs. for every one of the population. Raw sugar, when imported, contains from 2 to 3 per cent. of impurities. Three tons of stones have been found in a single cargo. A case was lately before the Circuit Court of Glasgow, which showed that arsenic was mixed with sugar. A captain was charged with causing the death of several seamen by serving out putrid pork to them, but, on the sugar being analyzed, it was found to contain sufficient arsenic to cause death. This sugar was supplied to the ship at Collao. And still people prefer sugar, and sugar syrup to honey.

CANDIED HONEY.—The question is so frequently asked, how to prevent honey from candying, and with such seeming desire to possess the secret, that we have determined to gratify the curious, and tell them all about it; but we wish to preface our information with the assurance that we discountenance, as disreputable, the adulteration of honey in any shape or manner. The candying of honey is caused by the over-saturation of sugar; by this expression, we mean too little water, and too much sugar. All the scientific research and learned discussions on this subject that has ever come under our observation have failed to develop a more simple or rational reason than this, and the same can be said regarding the remedy. You first reduce the body to a thin limpid state by adding sufficient water. It is only necessary to warm the honey to thoroughly incorporate it with the water; it need not be boiled. This makes the body so thin that it is necessarily impossible for it to candy.

Buyers object to it in this watered state, and in order to retain its body without renewing its liability to congeal,—some have been adding a sufficient quantity of that non-crystalizable substance, known as glucose. Honey thus "processed" will not thicken, but it is certainly *not* pure. It is claimed, and we have no doubt it is true, that by the aid of this "processing," thousands of pounds of comb honey, nice in itself, but stored in such awkward and unsightly surplus receptacles, furnished by lazy and improvident bee-keepers, has been sold, that would otherwise have proved a drug. This is an excuse—though only a poor one, for such "doctoring" process.

Capt. Hetherington has three grades of honey. "C" indicates his perfectly filled white combs of clover or linden.—The "B" is his buckwheat, while boxes that are stored with more than one kind of honey are indicated by an "X." Thus far, he has shipped 36,800 lbs. of "B;" 10,500 lbs. of "X;" and 7,250 lbs. of "C;"—2,271 cases in all!

Any questions that may be asked regarding the packing, selling and shipping of honey will be answered in this department.

Chas. Parlange, Esq., of Pointe Coupee, La., who works his apiary entirely for extracted honey, has shipped Thurber & Co. more than 100 bbls. this season. The bbls are wooden bound, and hold about 50 gallons each. Mr. P. is one of the leading lawyers of his state.

Our Letter Box.

Hamilton, Ill., Dec. 10, 1877.

"We will add our testimony to that of others in favor of granulated, extracted honey. We raised 7,000 lbs. of it, and it is nearly all sold at 10@12c. per lb."

CH. DADANT & CO.

Lexington, Ky., Dec. 11, 1877.

"The JOURNAL surpasses itself; each issue is an improvement over the last, in the bright, cheerful appearance and instructive influence of its whole composition. Long may it live!" W. WILLIAMSON.

Grand Rapids, Oct. 29, 1877.

"My bees came through last winter in a fine condition, not losing one, and they have netted me about $20, in bees and honey, to each hive this season, and supplied themselves with sufficient food for winter."

G. W. DICKINSON.

Fulton Co., Ill., Nov. 22, 1877.

"I have just built a bee house 52 ft. long, 7 ft. wide and 8 ft. high. I have stored 50 hives, (double tier), and hope they will winter well. I have 50 colonies out of doors; top of caps filled with chaff, and shall thus try both ways." H. HAINES.

Holt, Mich., Dec. 10, 1877.

"The past season was a poor one here.—Each hive had about 1 super filled. Early honey was very white. They weigh from 40 to 45 lbs. each. The fall crop was nearly a failure. We had 40 hives; increased to over 100. I have sold my honey.

JNO. L. DAVIS.

Rochelle, Ill., Dec. 16, 1877.

"I have 31 colonies in good condition; 25 of them in the cellar and the others packed in straw. Those in the cellar are all right now. I use the Langstroth hive, and left the caps on the hives, but nothing on the frames. I have had no experience in wintering in cellars, having always left them on their summer stands. C. S. HUBBARD.

Milledgeville, Ill., Nov. 26, 1877.

"THE AMERICAN BEE JOURNAL for Nov. was received in due season, and read with usual interest. The New York Convention was a grand success, and the discussions were of great moment. There is as much in selling as in producing, in our business, in a financial point of view."

F. A. SNELL.

Platteville, Wis., Dec. 7, 1877.

"I have 100 colonies, and cannot get along without THE BEE JOURNAL. I had 50 last spring, and got 400 lbs. comb honey in boxes, and 7,000 lbs. of extracted, besides doubling my colonies, which are strong and in good condition for winter. I built a bee-house, but it is not ready for bees this winter. I have had good success in wintering on summer stands. I use frames 13x21. I have some 15x18, but do not like them as well. I have from 9 to 11 frames in a hive in the summer, and about 8 in the winter. The space between the frames and the end of the hives are filled with chaff and straw; also the cover." E. FRANCE.

Bloomington, Ill., Dec. 5. 1877.

"I have just finished reading the Nov. number or THE AMERICAN BEE JOURNAL. Am much pleased with contents, especially the essay on the management of the apiary. I think that one article alone worth the price of subscription for a year. I have in winter quarters 64 colonies on their summer stands, and believe in quilts, partitions, Italians and the slinger."

WILL. H. WOLCOTT.

DeKalb Junction, N. Y.

"In this locality, this has been a very poor season for honey. The grasshopper and drouth killed every thing in the line of bloom, as well as all kinds of fodder.—Have gone into winter quarters with 94 colonies; some in rather poor condition.—They are 22 miles from my residence, and I think some may die before spring. I have wintered 165 colonies in my home apiary without losing one." IRA BARBER.

Gardiner, Me., Dec. 10, 1877.

"In this part of the state we have had one of the poorest seasons ever known for honey. My bees began to swarm about a month earlier than usual, but the drouth in June stopped all swarming and storing of honey in the boxes. Black bees have done nothing. Bees are generally in very poor condition for winter, and the losses will be heavy. Dec. 1st, I put into winter quarters 61 colonies with sufficient stores to carry them through, but not as strong in bees as usual." O. L. SAWYER.

Des Moines, Iowa, Nov. 30, 1877.

"On Thanksgiving day I prepared my bees for winter—placing them closely in rows, the better to enable me to watch them and see that their entrances are free from snow, ice, etc. Tight board fence on the north and straw over and around them affords them all the necessary shelter. I use Finn's Double-Walled Porous Bee Hives. For 20 years in Mass. I have wintered in cellars, generally losing half of them. I now go into winter quarters with 22 in Langstroth frames, but double-walled hives—they are light in bees and honey. I expect to winter every colony and bring them out in March healthy, with combs dry and brood plenty. I expect to go more largely into the business next year, and will report how I prosper." W. CLEMENT.

Oneida, Ill., Dec. 8, 1877.

"Last spring I went to Benton Bay, Miss., to take charge of an apiary there; taking my own bees there also, I began with 6 light stocks and 3 nuclei; increased to 20 good strong stocks. Had 1 swarm and 1 queen given me by friend McGaw. Got 647 lbs. of honey, 332 lbs. of comb, and 315 lbs. of extracted. My folks at home have 2 swarms, so we are back to our old number 22, that we had a year ago, losing 13 last winter by the bees indulging too freely in cider. My employer, Levi Hollingsworth, began with 108 stocks, increased to 172, and got 6,100 lbs. of box, and 911 lbs. of extracted honey; most of which was shipped to Columbus, O. The fore part of the season was backward, cold and rainy; and the most of the surplus got was from fall forage. I expect to go down there again next year, as I like it there first rate."

WILL M. KELLOGG.

Owen Co., Ky., Dec. 11, 1877.

"I have received the BEE JOURNAL regularly for the past 3 or 4 years, not a number missing. I prize it very highly, and if it should fail to come at the proper time, I should feel as though a dear friend was absent. I have been taking papers since 1840, but never have patronized one conducted in a more commendable way than THE AMERICAN BEE JOURNAL. I commenced the season with 16 colonies, increased by natural swarming to 41, and got about 100 lbs. of comb honey. They now look well. I would be glad of many things I see advertised in THE JOURNAL, but the Express companies have so little mercy, in charges, that I am compelled to do without them." G. W. JENKINS.

Fabius, N. Y., Dec. 10, 1877.

"I notice on page 365 that teasel is mentioned as producing the whitest, and nicest honey. I have had experience with all kinds of honey-producing bloom, (the teasel included), and find nothing quite equal to basswood honey for flavor or whiteness.—For 2 years past no teasel has been raised in this vicinity, but our honey has been nice and white. When teasel was raised here, some honey was dark; caused by the small teasel blossoms drying and becoming colored by the rain. Teasel produces a large crop of honey of good quality, but I think not quite equal to basswood."

H. D. MASON.

[The past season was dry, and perhaps that accounts for the teasel honey being so good. There being but little rain, the small blossoms did not become colored and stain it. *In other* years this might have been otherwise, and both contradictory experiences may be perfectly correct and harmonious.—Whatever may have been the result in other years, in the past season it certainly gave a large yield of good honey.—ED.]

Maysville, Ky., Dec. 9, 1877.

"I commenced the spring with 3 colonies, in Langstroth hives; all are in fair condition. I commenced feeding, March 10; increased, by artificial swarming, to 10 colonies. One swarmed and went to the woods, led by an imported queen. I sold one colony; from the remaining 9 I took 500 lbs. of honey—all extracted, except about 50 lbs. of comb. The season was the best that we have had for years. My 9 hives are packed in straw on their summer stands, under a shed 8 ft. wide, and 32 ft. long.—When extracting, the washings of the articles used about the Extractor was put in a stone jar, and set out in the sun to ferment, to be poured into the vinegar barrel. I neglected to cover it up, and flies got into it, and it was ruined. In a day or two, I noticed that it was covered with millers. I skimmed them out, and at night set the jar with the same water near the bee hives.—I examined it next morning, and skimmed out 52 millers. I removed it during the day, and set out again at night, and caught 31. The following night, I caught 5. I frequently placed the jar near the hives, during the summer, at intervals, but never succeeded in catching more than 4 or 5 at a time." WM. W. LYNCH.

Keokuk Co., Iowa, Dec. 15, 1877.

"My bees did well this season. We had nearly 2,000 lbs. of honey from them. They are in winter quarters, in better condition than usual." SELMIRA L. VAIL.

Opelousas, La., Nov. 30, 1877.

"What is the best way to handle queens when cutting their wings? I am fearful of injuring them, when holding them with the fingers. I have an idea that a drop or two of honey from a small oil can would so retard a queen that her wings could be cut without touching the body."

J. W. JACKSON.

[The queen should be handled by the wings or upper portion of the body—never by the abdomen. The queen may be retarded as you suggest.—ED.]

Davis, Mich., Dec. 11, 1877.

"A wax comb guide may be no new thing. I have read THE AMERICAN BEE JOURNAL for 2 years, during which time much has been said in regard to frame guides. The wax guide can be made by placing a straight edge on the top bar, wetting the straight edge lightly with a sponge, so that the wax will not stick to it; keep the bar dry. Hold it on an incline, so that the wax may be poured on with a spoon.—You can tip it, so that it will run fast or slow, making a light or heavy guide, as desired. With a little practice, this can be done rapidly. I use this guide; the bees accept it readily. I can put in the wax guide in one-half of the time required for the wooden guide, and it is much better.—I prefer it to comb foundation as a guide only." WM. P. EVERITT.

Noble Co., Ind., Dec. 10, 1877.

"In the spring, I had 60 colonies out of 75 put up in the fall. I increased to 107; got no surplus; I worked against increase all I could, and tried for box-honey, but got none. Cause, poor season,—the worst in 25 years. Fed in May. Bees gathered honey briskly in June. In July and August they consumed what they gathered in June; but increased their stores sometime in September. I have some 45 stands with about 25 lbs. of honey; the rest very light. I sold some, and took 26 stands of bees to feed others with. I got only 50 lbs. of honey from them. I have 20 colonies that I think will starve before spring. Such is the condition of most of bees in this county. I anticipate great loss of bees by starvation this winter. I had 3 swarms of black bees, with some trace of Italian blood among them, to come and settle in my bee yard. One had a beautiful yellow queen with them. I hived them; they went to work July 31st. Young bees hatched in due time, all pure Italian. Query: Are those bees pure Italians when their queen came with black and hybrid bees? Why did this swarm come and cluster in my bee yard? Please answer. Are there black bees in Italy?" F. R. DAVIS.

[If the queen was pure and purely mated, her progeny is pure, no matter in what company she may be. Most likely, she had been recently introduced to the colony, and led off the swarm. Not finding any better place to cluster, they favored you with a call. There are black bees in Italy.—ED.]

Southern Notes,

GLEANED BY

W. J. ANDREWS, - COLUMBIA, TENN.

For the American Bee Journal.

A Great National Industry.

Agriculture in its various branches, mining, and manufacturing, are the great industries which lie at the foundation of individual and national wealth. They are the great producing factors. Upon them all other pursuits depend. To add to these another productive calling, which can be followed by any who desire, in all parts of our country, will be to add to the general wealth, and to give a means of competence and happiness to our people. The modern improvements in bee-keeping—including the movable-comb hive, the honey extractor, comb-foundation, and the safe methods of wintering—make it a pursuit which may be indefinitely developed. Indeed, it may be so followed, that, from its wide diffusion over our country, and from the value of its products, it may be truly called a great national industry.

1. The products of some kind of labor, for instance some branches of fruit-growing, are so perishable that they must be sold as soon as ready for market, and as they will bear transportation but a short distance, the producer is put to a great disadvantage. The products of bee-keeping, honey and wax, may be kept an indefinite time, and may be transported to all parts of the world.

2. The demand for honey and wax may be increased beyond all of our present conceptions. Since the great success of comb-foundation, there is no doubt but all the wax produced will find a ready sale at advanced prices. Honey, at present, can scarcely be called an article of diet. It is a luxury met with now and then; but in the larger number of families, hotels, and restaurants is never seen. When its excellence and cheapness as an article of diet becomes known, it will be more widely used, and all that can be produced will be readily consumed.

3. Bee-keeping can be followed in all parts of our domain, north, south, east and west. In nearly all localities bees will do well. There is scarcely any locality in which they will not more than pay their way. In the country and in villages, there is little probability of over-stocking for years to come. In case a locality becomes over-stocked, some keepers must remove to unoccupied territory. In cities, a few hives can be profitably kept, as is shown by the good success of Mr. Muth, of Cincinnati.

4. Any intelligent person, who will give attention to it, can learn the business of bee-keeping. The theory of it is plainly taught in books and the BEE JOURNAL. The practice can be acquired by any intelligent person who will get a hive of bees and go to work to apply the theory he has learned by careful reading.

5. The business can be begun with small capital, and on a very small scale. Any industrious person can get one, or a few swarms of bees in box-hives. He can transfer them to movable-comb hives. Then as he acquires knowledge and skill in the work, his bees will increase. He can make his income from his bees more than pay all the outgo, and soon have a stock as large as he desires, as the product of the one or few with which he begun.

6. If he desires, he can increase his business to any extent. His own hives will give him the bees. He can establish apiaries at as many points as he chooses. He can superintend these apiaries, and attend to purchases and sales. Followed in this way, bee-keeping may become a business demanding the best efforts of the ablest business men. The report is just at hand that Capt. Hetherington, of Cherry Valley, N. Y. has 3,000 colonies, and that his income from them the present year will be about $30.000. This is only an instance of what may be done by many others.

7. No business can succeed in the long run which does not give a fiair profit.—Without going wild over the reports of the immense profits realized in a few instances from keeping bees, there seems no doubt that when taken up as a regular business, and intelligently pursued from year to year, it will pay a profit as large as most other callings. Possibly, for a few years, men already in the business, and following it with energy, may make a larger profit than most other callings give. But this will not continue long. Labor and capital will flow in this direction until profits are equalized.

A calling that produces valuable staple articles, that may be followed in all sections of the country, of which intelligent people can readily acquire the theory and the practice, that may be undertaken on a small scale and with a very small outlay, that may be developed to such dimensions, as to give scope to the powers of the ablest business men, and that yields a fair profit on the investment,—such a pursuit surely has in it such elements as may enable it to grow into an industry that may truly be called national.

But it is said by some that there are such great risks to be run in bee-keeping, that the business partakes of the nature of a lottery, and that no such business can become of national importance. These objectors will enumerate the moth, foul-brood, poor seasons, dangers of wintering, and over-stocking the market, as good reasons why the business of keeping bees can have no large development.

1. As to the moth, the bee-keepers, who have had the widest experience. say, that it gives no trouble when Italians are kept in hives that have no lurking places for the enemy. Upon this point the testimony is, in effect, unanimous.

2. Foul-brood has been in some places a serious difficulty. But care can, in most cases, keep it out, or eradicate it when it appears. Some of the best bee-keepers, who have had to contend with the disease, tell us that salicylic acid, used according to their direction, is a sure cure.

3. Poor seasons are an injury, but poor seasons come to nearly every business,—to bee-keeping no more than to others. In calculating the profits of bee-keeping, we must make allowance for poor seasons. After making this allowance, the experience of the best established keepers shows a good profit.

4. The dangers of wintering seem about to disappear. Perhaps it is not too much to say that they have disappeared. Those

that have been sure in the fall of young bees and healthy stores, and who have given them suitable protection, either in doors or out, report success. They tell us, they have no fear of wintering. Young bees, healthy stores, and proper protection can be secured by the intelligent bee-keeper. He can be sure of them. They are entirely under his control. Hence, it does not seem rash to say that the dangers of wintering are, for the intelligent, energetic bee-keeper, among the things that were.

5. Lastly, we have the objection that the markets will be overstocked, and hence prices will fall below a paying basis. This objection has been so earnestly urged that it is worth while to look at it somewhat closely, which I propose to do in a subsequent essay. I will only say here, that the history of nearly every business shows that as the supply of an article increases, and the prices fall, the demand increases so largely as to make the aggregate profits greater than they were when the production was less, and the prices higher. So in regard to honey; if the prices fall a good deal below what they now are, this reduced price will cause honey to be taken by large numbers, who now do not use it at all; and this consumption will so increase the demand, that the producer can sell 50 lbs where he now sells 1lb; and so make much larger profits, in the aggregate, in spite of the lower prices.

The arguments in favor of bee-keeping becoming a great industry of national importance seem to me to be clear and strong. The objections do not seem to be well taken. I think there is no doubt but capital and intelligent labor will be attracted to this business, and that in the course of a quarter of a century it will have a growth that will surprise us all.

Keokuk, Iowa, Dec. 5, 1877. O. CLUTE.

For the American Bee Journal.

Grape Sugar.

A great deal of attention has, of late, been directed to the use of grape sugar as a cheap substitute for honey for wintering bees.—As the solid crystaline portion of honey is pure grape sugar, there is no reason why a pure article of grape sugar should not be a perfect substitute for it. Perhaps there are some who would like to experiment with it, and as it may be more convenient for them to manufacture it themselves, than to buy, I will describe a process for manufacturing it on a small scale

Grape sugar is most economically prepared by artificially modifying starch.—This can be done in two ways, which I will describe:

To 10 parts starch, (or bolted white corn meal) add 1 part bruised malt and 40 parts of water, all by weight. Heat the malt and water to about 150° fahr., and then add the starch, stir constantly and raise the temperture to about 170° fahr., and keep at this degree until the starch is all converted, and when all complete, bail, filter, and reduce to a syrup. This is glucose or impure grape sugar. It contains a great deal of mucilage and is very much inclined to sour.

The best process, although a little more troublesome, is as follows:

25 parts of starch will require about 100 parts of water, and 1 part of oil of vitrol.—The acid should be diluted by adding it slowly to about 10 times as much water, in an earthen vessel.

Put the water into a copper kettle, on a wooden tank, heated by a copper steam coil, (don't use any other metals, excepting lead,) bring it to a boil, then add the diluted oil of vitrol, and while the liquid is kept boiling, gradually add the starch, which should be mixed with water enough to make it of a creamy consistency. Avoid lumps, and be very careful and *do not let it burn* during the process of boiling, as that will render it *poisonous to the bees.* Replace the water as it evaporates. The starch is first converted into *dextrine.* It will require from 6 to 8 hours continuous boiling to thoroughly convert it into grape sugar. The acid does not unite with the starch, but only acts by its presence. When the convertion is complete, the acid must be thoroughly removed by the addition of pure carbonate of lime.—A good article of powdered chalk will do.—Add it in small quantities until the liquid ceases to effervesce upon the addition of more chalk. Stir the liquid while adding the chalk. It will require a little more chalk than the oil of vitrol used.

After neutralization, the liquor should be strained into a tub, to allow the gypsum, or sulphate of lime, to settle; which will require about 24 hours. Keep the vessel closely covered, and use every precaution to prevent souring. The clear liquor should be drawn off and evaporated to the consistency of syrup, again allowed to settle, and then reduced further if you wish it to crystalize.

The above process will do very well for bee food, but it will be too dark and impure for a commercial article, and requires to be filtered through animal charcoal to whiten it.

Now let every body try their skill, and let us hear the result. If grape sugar is a reliable substitute for honey, and only costs 2 or 3 cents a pound, we can extract every drop of honey from the comb and winter on grape sugar. S. C. DODGE.

Chattanooga, Tenn., Oct. 25, 2877.

Mr. S. Scott Hammitt, College Hill, Ohio, inquires:

1. Do you have Clover and Linden with you?

Yes, in abundance. We also have a great quantity of Poplar, by some, called Tulip. From this we get our first crop of honey.—Its yield some years is very large, and in flavor, we think, far supasses any other kind of honey. In color, it is classed as dark.

2. Are there many bees kept in and around your vicinity?

At a guess, I would say, that there are about 1,000 colonies in Maury Co.

3. Would it pay to embark in the business there?

To make it an exclusive business, I hardly think it would.

4. What do Italian bees sell at per colony?

From 5 to 10 dollars.

5. What is good land worth in a small way?

From 25 to 100 dollars per acre.

6. Do you know anything about Florida? I do not.

7. Can you inform me of any locality that I could go to where pasturage is good? You will find bee pastureage good in nearly all pastures of middle and east Tennessee. You will probably find lands cheaper in east Tennessee. We have quite a number of inquiries concerning that portion of our state, but we are not sufficiently acquainted with it to give the desired information. We refer all making inquiries about that section of our state, to our friend S. C. Dodge, Chattanooga, Tenn., whom we know will cheerfully respond to any letters addressed to him. W. J. A.

FRIEND ANDREWS, we have been confined to our room and bed for one year, and after suffering the pains and aches subject to this life, we had finally to submit to the amputation of our right limb; but we are happy to say that we are again up, and feel as buoyant as a boy, and hope hereafter to occasionally send some items for the JOURNAL. A. F. MOON.

We are right glad to hear from friend Moon again, but sorry to learn of his suffering and misfortune in the loss of one of his limbs. We are well prepared to fully sympathise with one in his condition, for we have not been able to raise our right arm since 1868. W. J. A.

☞ Dr. G. D. Lawrence, Cedar Bluff, Ala., writes that he started in the spring with 13 colonies (4 weak and 2 queenless). He increased to 30 and got 40 to 60 lbs. honey. He intends to increase to 100 next season.

W. H. Green, Sparta, Ga., writes: Bees have done well. Extracted 1,000 lbs. of honey from 5 colonies.

Dr. Larch, Ashland, Mo., writes: Have 14,000 lbs. of choice honey, averaging 110 lbs. to the hive. Season only a poor one.

A. F. Moon, Rome, Ga.: Bees done well; wintering on summer stands, with not even a honey board on them. Since Dec. 6, bees have been carrying in pollen freely. Some colonies have brood, and all are dry, sweet and lively.

In *Annals of Bee Culture*, Mrs. Tupper stated that she succeeded, in 1870, with 27 queens, more than nine-tenths of the time she attempted it. She further stated that during that season she did not fail in a single instance when she tried. If these are facts, is there not enough of genius among our bee keepers to make this a success? We have hundreds of bee keepers that are as well qualified, who understand all branches of bee culture, as well as Mrs. T. Then let their light shine. A. F. MOON.

We never like to assert that a thing can't be done; but as to fertilizing queens in confinement, we do emphatically say we don't believe it, nor never will believe it until we have a practical demonstration of the fact—any essays to the contrary notwithstanding. W. J. A.

Twenty-Five Dollars Premium.

I will give $25 in cash for a successful method of fertilizing queens in confinement, the test to be made by three practical and disinterested bee-keepers. I want no essays about the matter, but facts demonstrated by experiments. A. F. MOON.

☞ In a note dated Nov. 22, Miss Anna Saunders writes us of the death of her favorite niece.

We extend our warmest and most heartfelt sympathies in this, her sore bereavement. W. J. A.

☞ I had 4 queens hatched in Oct. They were small but well bred; the weather continued cold and wet for over 21 days, so that no swarms flew. These queens, strange to say, were fertilized on the 23rd day after being hatched. A. F. MOON.

North Eastern Bee-Keepers' Ass'n.

The North-Eastern Bee-Keepers' Association will hold its Annual Meeting at the City Hall, Syracuse, N. Y., on the 6th, 7th and 8th of February, 1878. First session at 1 o'clock, P. M., of the 6th.

Papers on important subjects are expected from some of our own members, as well as from eminent apiarists abroad. Among those may be mentioned an essay on "Recently Discovered Parasites of the Honey Bee, and their Connection with Successful Wintering."

The Marketing of Honey will receive special attention, and it is expected that initiatory steps will be taken toward supplying each member of the Association with reliable data of much importance to honey producers. To secure satisfactory results, a full attendance of this class is especially desired. P. H. ELWOOD, Pres't.
J. H. NELLIS, Sec'y.

BEE POISONS IN MEDICINE.—Diptheria, which in North America, England, and the coast lands, has for years been epidemic, is also becoming common among us, and during this damp, cold winter, particularly, it has manifested its malignancy. The symptoms of this disease may be known to our readers, but it is not as probable that the fact is known that *apis* (bee poison), has been used with excellent results in cases of this malady. This remedy is also successfully employed in cases of scarlet fever; in dropsy, particularly, which often appears after scarlet fever; in eruptions of various kinds; diseases of the eyes; dizziness; palpitation, and other complaints.—Just here, I cannot refrain from mentioning the view of a homœpathest, who recomends as a preventive of croup, scarlet fever, and eruptions common among children, the use of comb-honey. The combs, which, in their removal from the hives, have the bees brushed from them, (not smoked off), become in a certain measure infected with the bee poison; for the sudden pressure causes the stings of the bees to be thrust out involentarily, and the poison moistens the combs, upon which fact he bases his view.—*Schlesische Imker, Troppan, Lower Silesia.*

Correspondence.

The Secre of Successfu Bee-keeping.

To be successful, the apiarist must have a simple, movable, frame hive of some kind; and for box honey, the brood chamber should not contain over 1550 cubic inches inside the frames. All know that bees gather honey, and that the eggs laid by the queen produce bees, consequently the more eggs the queen lays, the more bees we get; and the more bees we have, the more honey they gather. In fact, the queen is the producer of the honey. Therefore, if we wish good returns from our bees, we must see to it that we have good prolific queens, and that they fill the combs with brood before the honey season commences, so that when the honey harvest comes, the bees will be obliged to place the honey in the boxes, as there will be nowhere else for them to store it.

But how shall we secure combs full of brood, and plenty of bees to carry on the labors of the hive by the time our honey harvest begins? As soon as spring opens, our bees should all be examined by lifting the frames of each hive, and if the stocks are weak, the bees are shut to one side of the hive by means of a division board, so as to keep up the necessary heat for brood-rearing, on as many combs as they can cover. As soon as the queen has filled these combs with eggs, we spread them apart, inserting an empty comb between those occupied with brood, and in a few days' time the queen will fill this one also; and so we keep on until every available cell is occupied with brood. Thus it will be seen that instead of the queen laying her eggs on the outside of the cluster, she lays them in the center of the brood-nest, where they should be. After the hive is full of brood and bees, it does not make so much difference, as the weather is warm, and bees are plenty, so that the queen can deposit her eggs anywhere in the hive.

As soon as the strongest stocks are full, take a frame of brood just gnawing out and place it in the weaker ones, giving the strong one an empty comb for the queen to fill again, and so keep on until all are full.—When this is accomplished, put on boxes; and, as we said at the commencement, if any honey is gathered it must be put in the boxes. Each box should have a small piece of comb attached to the top as a "starter," to get the bees to work more readily in the boxes; the center tier of boxes, if possible, should be full of comb, left over from the previous year. As soon as the first few boxes are filled, they should be taken off, before being colored by the bees passing over them, and empty ones put in their places, thereby causing the bees to work with renewed vigor to fill up the vacant space left where the full ones were taken out. And thus we keep taking out full ones, and putting empty ones in their places as long as the honey season lasts.

This, in short, is the way we work our bees to secure the yields of honey which trouble Jno. Fox so much. Please say to your Otisco Valley correspondent that we fear he has not observed closely about teasel honey. We were told when we first commenced to keep bees, that teasel honey was dark, but after 9 years of experience we will say we never saw any dark honey gathered from teasel. We have caught bees while they were at work on the blossom and killed them, only to find their honey sacs filled with white honey; and we have extracted when basswood was a failure, with plenty of teasel honey, only to find it white. In short, we never got a pound of dark honey from our bees, when teasel was in bloom. It is the whitest honey we know anything about. G. M. DOOLITTLE.

Borodino, N. Y., Dec. 11, 1877.

Comb Foundation for Starters.

FRIEND NEWMAN:—I could not do without THE JOURNAL, in the management of my bees, and I cannot see how any one else can, and keep up with the times.

I see there still exists a great difference of opinion with regard to comb foundation, as to the advantage of using it in boxes, etc. I tried some yellow foundation this season, and had good success with it. I tried it in boxes, and also in the brood chamber, and had no trouble with ragged or thick comb. They worked it out, I think, as thin as any natural comb.

I do not think a frame or a box ought to be filled full of the foundation, especially thick foundation, for they will have too much wax to work up and remove. Consequently, when honey is coming in rapidly, they will commence putting it in the cells before they have thinned it out as it should be. This, I think is one reason of so much thick comb, or rib in the honey boxes.—Now I put narrow strips of foundation in my boxes, reaching to the bottom of the box, serving them as a ladder to the top of the box, and also as starters for the bees.—In the brood-chamber I put 3 or 4 small starters of the foundation in each frame the shape of a triangle, and about 3 in. long. Starters put in this way, the bees build out and I think if you will give this method a trial, you will find they will build it out as thin as natural comb; I think foundation used in this way is of great value in getting straight combs in the brood chamber, and also for starting bees in the boxes, and producing large quantities of box honey.

I have just read an article in the last issue, from James Heddon, in which I fully concur with him. I believe, as he says, we ought not to induce every one that has tried some other pursuit and failed, to try bee-keeping. Especially those that are hunting *easy labor* and *large profits*, for they will *be sure* to fail.

I believe we ought to look to the sale of our honey as one of the most important items in bee-keeping. How often do we see persons that have been induced to try bee-keeping, when they find that there is a great deal of labor and attention attached to it, take no interest in it; take their honey, as Mr. Hedden says, in tubs and pails, all mashed and broken up, going around to the grocery, and take just what is offered for it; often as low as 6, 8, or 10 cts. per lb. for comb honey. Now, this is to some extent injurious to the sale of our own honey, and I for one, am for building up, not for pulling down our own interests.

My father and myself commenced with 60 hives this season, and 20 of them were very

weak; the remaining 40 were in tolerable good condition. These we run for extracted honey, averaging 150 lbs. per hive; making in all about 6,000 lbs. Our honey was a little dark, but of good quality. We sold most of it at retail, getting 15 cts. per lb. We increased our bees to 80 colonies, and they have plenty of honey, and so far in good condition for winter. I will close by wishing you a "a happy and prosperous new year." WM. BENCE.

Newbery, Jefferson Co., Ky.

For the American Bee Journal.

New Races of Bees.

Some years ago an article appeared either in THE AMERICAN BEE JOURNAL or in one of our agricultural papers, giving an account of a bee on the Amoor river, that was thought would prove of value in this country. Has anything further been heard of it?

Correspondence has been opened by several American bee-keepers, to obtain information about *Apis dorsata*, of Java, and I hope soon to have something to communicate respecting it.

I received a letter to-day from a gentleman who is skillful in handling bees. He thinks of going to Europe in the spring, to import the Cyprian bee for himself and to fill several orders from friends; and I know of several who have ordered them from German breeders. So there is a fair prospect of having them tested here the coming season.

Honey is now put upon the market in such attractive form by our best apiarists, and such skill has been attained by a large number in the practical work of the apiary, and that number more rapidly increasing every year through the knowledge spread by our journals, that we must look in new directions for advance in our persuit. Science must come to our aid and suggest new methods of culture. New races must be tried. Much remains to be done before we can feel assured that we have reached the best results.

I would here return my thanks to Mr. Benton for the interest he has shown by translating Mr. Edward Cori's article on *Apis dorsata* for the AMERICAN BEE JOURNAL.

Shortly after the publication by the Harpers of Alfred Russel Wallace's Malay Archipelago, 1869, I sent seme extracts to the JOURNAL on *Apis dorsata*. As an interest is springing up in this bee, both here and in Europe, I think it desirable to publish them again, that a greater number of readers may enjoy the promising facts given, which I consider even more encouraging than the statements given by Mr. Cori.

Wallace found this bee on the Island of Timor, and mentions bees or their products in Borneo Celebes, Gilolo, and the Aru Islands. Possibly *Apis dorsata* exists on many of the Islands, as well as in Java and Timor. Mr. Woodbury, of England, received specimens of this bee and comb from Ceylon, but failed to import it.

In visiting a house in Borneo, Mr. W. writes: "Almost all the people, however, were away on some excursion after bird-nests or bees-wax." .... The honey bee of Borneo very generally hangs its combs under the branches of the tappan, a tree which towers above all others in the forest, and whose smooth cylindrical trunk often rises 100 ft. without a branch. The Dyaks climb these lofty trees at night, building up their bamboo ladder as they go, and bringing down gigantic honey-combs. These furnish them with a delicious feast of honey and young bees, besides the wax which they sell to traders, and with the proceeds buy the much-coveted brass wire, ear rings and gold-edged handkerchiefs, with which they love to decorote themselves. In ascending durion and other fruit trees which branch at from 30 to 50 ft. from the ground, I have seen them use the bamboo pegs only, without the upright bamboo, which renders them so much more secure."

Mr. W. describes very minutely how the pegs are driven in the tree, and the bamboo ladder formed as they ascend these gigantic trees. One of the illustrations, (p. 204), copied from a photograph, represents a Timorese with a small water bucket in one hand, made of an entire unopened palm leaf, and in the other a covered bamboo, which "possibly contains honey for sale" .... Besides ponies, almost the only exports of Timor are sandal wood and bees-wax.—The sandal wood is chiefly exported to China, where it is largely used to burn in the temples and in the houses of the wealthy. The bees-wax is a still more important and valuable product, formed by the wild bees, (*Apis dorsata*), which build huge honey-combs, suspended in the open air from the under side of the lofty branches of the highest trees. These are of a semi-circular form, and often 3 or 4 ft. in diameter.

I once saw the natives take a bees' nest, and a very interesting sight it was. In the valley, where I used to collect insects, I one day saw three or four Timorese men and boys under a high tree, and, looking up, saw on a very lofty horizontal branch three large bees' combs. The tree was straight and smooth barked, and without a branch, till at 70 or 80 ft. from the ground it gave out the limb which the bees had chosen for their home. As the men were evidently looking after the bees, I waited to watch their operations. One of them first produced a long piece of wood, apparently the stem of a small tree or creeper, which he had brought with him, and began splitting it through in several directions, which showed that it was very tough and stringy. He then wrapped it in palm leaves, which were secured by twisting a slender creeper around them. He then fastened his cloth tightly around his loins, and producing another cloth, wrapped it around his head, neck, and body, and tied it firmly around his neck, leaving his face, arms and legs comparatively bare. Slung to this girdle he carried a long thin coil of cord; and while he had been making these preparations one of his companions had cut a strong creeper, or bush-rope 8 or 10 yards long, to one end of which the wood torch was fastened, and lighted at the bottom, emitting a steady stream of smoke. Just above the torch a chopping-knife was fastened by a short cord.

The bee-hunter now took hold of the bush-rope just above the torch and passed the other end around the trunk of the tree, holding one end in each hand. Jerking it up the tree a little above his head, he set his foot against the trunk, and, leaning back began walking up it. It was wonderful to see the skill with which he took advantage of the slightest irregularities of the bark or

obliquity of the stem to aid his ascent, jerking the stiff creeper a few feet higher when he had found a firm hold for his bare foot.—It almost made me giddy to look at him as he rapidly got up,—30, 40, 50 ft. above the ground; and I kept wondering how he could possibly mount the next few feet of straight, smooth trunk. Still, however, he kept on with as much coolness and apparent certainty as if he were going up a ladder, until he got within 10 or 15 ft. of the bees; then he stopped a moment and took care to swing the torch (which hung just at his feet) a little towards these dangerous insects, so as to send up the stream of smoke between him and them. Still going on, in a minute more he brought himself under the limb, and in a manner quite uninteligible to me, seeing that both hands were occupied in supporting himself by the creeper, managed to get upon it.

By this time, the bees began to be alarmed, and formed a dense, buzzing swarm just over him, but he brought the torch up closer to the hive, and cooly brushed away those that settled on his arms and legs. Then stretching himself along the limb, he crept towards the nearest comb and swung the torch just under it. The moment the smoke touched it, its color changed in a most curious manner from black to white, the myriads of bees that had covered it flying off and forming a dense cloud above and around. The man then lay at full length along the limb, and brushed off the remaining bees with his hand, and then drawing his knife, cut off the comb at one slice close to the tree, and attaching the thin cord to it, let it down to his companions below. He was all this time enveloped in a crowd of angry bees, and how he bore their stings so cooly, and went on with his work at that giddy height so deliberately, was more than I could understand. The bees were evidently not stupified by the smoke or driven away far by it, and it was impossible that the small stream from the torch could protect his whole body when at work. There were 3 other combs on the same tree, and all were successfully taken, and furnished the whole party with a luscious feast of honey and young bees, and a valuable lot of wax.

After 2 of the combs had been let down, the bees became rather numerous below, flying about wildly and stinging viciously. Several of them got about me, and I was soon stung, and had to run away, beating them off with my net and capturing them for specimens. Several of them followed me for at least half a mile, getting into my hair and persecuting me most pertinaciously, so that I was more astonished than ever at the immunity of the natives. I am inclined to think that slow and deliberate motion, and no attempt at escape, are perhaps the best safeguards. A bee settling on a passive native probably behaves as it would on a tree or other inanimate substance, which it does not attempt to sting.—Still they must often suffer, but they are used to the pain and learn to bear it impassively, as without doing so no man could be a bee hunter."

I consider this a very remarkable description. Very few men not practical apiarists would have observed as much and stated it as clearly. I regret that the arrangement of these "3 combs" is not given. It is to be hoped they were parallel and not a unicomb arrangement, lengthwise with the limb.

Two birds, bee eaters, are named Meropogon-forsteni, and Merops-ornatus.

I hope soon to be in possession of facts of still greater, practical interest, which I will communicate as soon as received.

E. PARMLY.

19 W. 38th St. New York.

For the American Bee Journal.

My Bees.

For the first time in many years, the summer of 1877 found me devoting my entire time to the care of my bees, during the honey harvest. I started with 98 colonies in fair condition. Fruit blossoms were an entire failure, so the bees were late about filling up in numbers. I took a ton of extracted honey, and the same amount of comb, and increased to 127 colonies, which were put in the cellar during the last half of Nov. My bees were inclined to swarm more than I wished, and I suppose I was the loser by trying to prevent it. At first, I tried returning the swarms and cutting out all queen cells; but that seemed to make but little difference; they would come out again in a day or two. I tried hiving them in their own hive, and moving it to a new place, but they swarmed out all the same.—Then I hived the queen with a few of the bees, and gave them a single frame of brood, but the queen would swarm out with most of her little colony.

One trouble was that I had not prepared for them beforehand. I had not supers ready so as to give them plenty of room to work in, and they swarmed so much that I could only work mornings and evenings, making supers and getting them ready. But after a colony swarmed once, it did not seem to make much difference how much room they had.

Perhaps the most determined colony in the apiary was No. 30. June 16, I put on a super of novice sections, filled with foundation, and June 20 they swarmed. (I think it quite possible, that if the sections had been put on June 10 or sooner, they would not have swarmed.) I returned the swarm, or rather let it return itself, as the queen was clipped; and cut out all queen cells, taking away one frame of brood and giving in its place a frame of foundation. Next day, June 21, they swarmed again, and I took away 3 more frames of brood. June 22, they swarmed again, and as usual I caught the queen and gave her back after their return; and in a few minutes, out they came again. Then I took away all their brood, took off the supper, and left them nothing but empty frames and a little foundation; feeling determined that for once I would have my own way, and that the colony should not swarm anyhow. But in spite of all, out they came the next day, and I very humbly hived the swarm in an empty hive where it clustered, and it remained content. Examining No. 30, I found not a particle of brood in any stage, and but 1 egg, which was in a queen cell that was started on the foundation. As there was a fair colony of bees left, I gave them back their brood and a sealed queen cell.

I have never thought that the queen had anything to do with making a colony swarm, but a number of cases this last summer point quite strongly in that direction.—Frequently a queen has been spoken of as

"leading out a swarm," but a queen is seldom among the first that leave, and is often among the very last; so that if she does have anything to do with it, she seems rather to stir them up and drive them out.

June 27, No 4 swarmed. I caught the queen, and put in an empty hive a frame of brood, with the adhering bees from a nucleus that had been queenless 9 days, and the queen was gladly accepted by them. This hive, containing the queen, I placed beside No. 4, and the next day the queen and most of the bees were gone. July 5, I opened No. 4, to cut out the queen cells, and found them destroyed; plenty of young brood and eggs, and the old clipped queen back in the hive doing duty. Did this queen give the swarming fever to the little nucleus, which was well shaded, and certainly had no previous inclination to swarm? Why should she be content back in the old hive?

Dec. 8, 1877. B. LUNDERER.

For the American Bee Journal.

Failure in Wintering.

For the benefit of my fellow bee-keepers, I will relate my sad experience of last Winter:

In the fall, a year ago, I had 53 colonies, nearly all strong. I was very anxious to save them through the winter, as they had rewarded me handsomely for my summer's care, and especially anxious about them as I had lost heavily during the last 7 years.

In accordance to some writer's directions in THE AMERICAN BEE JOURNAL, I procured lumber and made large boxes—1 for each hive; large enough to admit 4 inches of chopped straw around, under and above the hive. In place of a honey board, I used a quilt. Now for results:

By the 1st of Jan. nearly all were getting very uneasy, trying to get out of the hives, and exhibiting signs of disease. By the 1st of April, one third of the stock were entirely gone; middle of May, only about one-half were left, and they very weak. Will some one tell me why they died when I had taken so much pains to save them?

SPRING MANAGEMENT.

I do not feel like instructing the merest novice about *wintering* bees, but I may suggest some thing of use to the beginner, in regard to equalizing and building up a lot of weak stocks:

When spring opens contract the entrances, and make all tight and warm over the bees. Guard all the weak stocks very carefully from the strong ones, and contract their hive room to accommodate the size of the swarm. Take away extra combs, but leave plenty of honey. During cold windy days, discourage them from flying, by shading the entrance of the hives.

It is necessary that at least one-third of the entire number of stocks should be good and strong. When settled warm weather arrives, (say about the 1st of May, but not before for this latitude), begin to equalize. Take from the centre of each strong stock two combs of hatching brood,—bees with them, if sure you leave the queen in her own hive, and give one of these combs to each weak stock, placing it in the centre of the cluster. Then make all warm again and wait 10 days, supplying the strong stocks with good empty worker-combs to replace those removed, and keep a record of your operations.

Always select the oldest or hatching brood to give the weak ones.

If hives have plenty of honey, I don't think it pays to feed them to stimulate breeding in the spring.

The above is just what I practice every spring, if I have poor stocks; I find it pays well, though it makes some trouble.

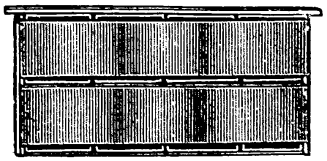
Freeport, Ill. PRESCOTT YOUNG.

For the American Bee Journal.

Tin Separators.

Mr. Heddon, in THE JOURNAL for Oct., writes: "I find Root's method of putting these frames, (sections), within frames, very complicated and troublesome, compared to the method I use." Will Mr. Hedden please explain his method, for the benefit of many who are inquiring for the best way—the least complicated and troublesome way? And, if he uses the tin separators, will he give size of tins, compared with combs to be built, and the manner of readily adjusting them, and changing them from one case, when filled, to another empty one?

I suppose our large producers in the East use separators, (certainly Mr. Hetherington's fine display at the Centennial—each section comb encased in six pieces of glass,



LANGSTROTH FRAME WITH SEPARATORS.

could not have been secured with such uniform regularity without them), and perhaps our western producers also; yet, but very little mention is made of them in the bee-papers, and I do not remember seeing any illustration of them in THE AMERICAN BEE JOURNAL.

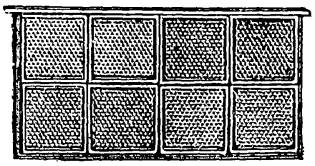
Common bee-keepers are becoming dissatisfied with any way as soon as they think there is a better one; and to have heard a little of separators, stimulates inquiry.—Shall they look to THE AMERICAN BEE JOURNAL for illustrations of them?

In same number, Southard & Ranney give cut of their case or rack, for sections. The sheet-iron rests, with edges turned up, will undoubtedly work well. I have tried common hoop-iron, but it is not stiff enough, and so thin, that in turning up, the bees fasten the two cases together so tightly, that in lifting off the upper one, the tops of sections are torn from the lower ones.—Strips of wood-work are better, but the bees spend too much time in sticking them down. I think they might neglect the edges of metal, as they do the tin corners. *Where can we procure such rests?* "The rack sits on the frames." Does it also sit on top of hive, closing it bee-tight? If it closes at the bottom, then, by covering the glass, could we not dispense with the super? But then, in tiering up, would it close bee-tight? Hope you will describe some of the manipulations in working them. Will you also instruct us how we may obtain sections at 3 mills each. The difference of mills on each one is not much, but $8.00 on every

thousand is worth looking after. Could a set of tins for this rack be fastened to a frame work, and all be let down together between the sections when ready for the bees?

Among the many interesting essays in the Nov. AMERICAN BEE JOURNAL, I found in one by Mr. Metcalf, an expression of opinion in regard to "pure queens, and pure progeny," which I have been expecting to find in each succeeding number. I believe he has given voice to the private thoughts of very many. Facts in one's experience are stubborn things, and do not yield gracefully to any theory with which they are not in harmony.

That an intelligent, truth-loving apiarist can spend season after season among his bees, improving, and testing them, and then go into his study, and "in the presence of the innermost, holiest of conscience," as Rev. Joseph Cook might say—deliberately put pen to paper to teach beginners the "drone theory of the books," has been to

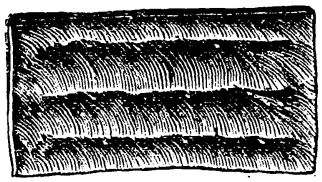


LANGSTROTH FRAME WITH SMALL SECTIONS.

me, for years, a source of wonder. The suspicion that he uses *separators* between himself and his conscience is not to be entertained; therefore useless, any inquiry as to how *these* may be worked.

Ridgeville, Ill. A. L. GOULD.

[Above we give a view of a Langstroth frame (2 inches in width) filled with 8 sections, 4¼x4¼ each; and another showing the use of the separators. The latter are pieces of thin tin, tacked at each end to the sections, to be easily removed when the frames are filled. Their use is to keep the combs straight. About ¾ of one inch should be left between the two separators, and their size must be governed by the size of the hive used. The separators should not come nearer than about ½ inch to top or bottom of frames. Some favor separators, while



NOVICE'S CHAFF CUSHION.

others prefer to use foundation without them. If friend Doolittle is still using them, he does not say so in his article in this issue. Will he please give his experience with them to our readers? The rests used by Dr. Southard can be made by any tinner. Take strips of sheet-iron 2 inches wide, and turn up ¼ inch on each side for the centre—only one edge turned up for the ends. The rack sits on the hive, making it bee tight. Will Dr. Southard please give us his manipulations for our next issue?—ED.]

Foreign Notes,

GLEANED BY FRANK BENTON.

☞ The following is the translation of a letter recently received:

Monselice, Italy, Nov. 28, 1877.

MON CHER M. FRANK BENTON:—I await from day to day the bees of the island of Java which I am to receive at the port of Venice.

I believe *Apis dorsata*, of the island of Java, to be the best, whether we consider its size, which enables it to collect much honey, or whether its large proboscis, enabling it to obtain honey from flowers that our bees cannot collect from on account of their short proboscis.

I think that it is unnecessary to make a journey to the island of Java, because professors of natural science are there who would be able to procure and send the bees.

As to the Cyprian bee, it is more yellow than our Italians, but possesses no other special points.

With sincere respect, I am yours truly,

JOSEPH FIORINI.

"THE year 1877 is, decidedly, to be reckoned among the unlucky years for apiculturists."—*L'Ape Italiana, Turin.*

"In consequence of an exceedingly changeable spring, followed by a hot, suffocating summer with a prolonged drouth which dried up the sources of honey, this year has given few swarms and but little honey."—*L'Apicoltore.*

☞ In a letter to *L'Apicoltore*, Milan, Sig. Ginseppe Fiorini, who has undertaken the importation of *Apis dorsata* to Italy, remarks: "I should be proud to be able to import this race of bees to our beautiful Italy, for I would like to have the names of our Italian apiarists praised as well as those of other nations, and that it might be said the Italians first imported *Apis dorsata* to Europe."

PARIS EXPOSITION.—The October number of *L'Apiculteur* (Paris) states that the assignment of space to exhibitors in class 83, at the Exposition of 1878, has not taken place, as yet, because of changes in the proposed location and arrangement of articles in this class. It says that the area, 800 metres, first asked for would not have been too much, yet the request had to be lowered to 400 metres, and 260 metres will be granted the department. It seems the plan is to exhibit the products of the apiary only in connection with the various agricultural products. *L'Apiculteur* remarks: "Not being united the products of the apiculturists who have requested of the departmental Commission or of the Agricultural Society in session, space in which to exhibit, will be scattered throughout the agricultural exhibit, and will neither be seen by the public or viewed by a special committee. What the exhibitors ought to do is to state to the said Commission or Society that they expect to exhibit only in Class 83, to refuse to exhibit elsewhere, and to address immediately a request to the Minister of Agriculture that their products be admitted to Class 83. It is not too late, but there is no time to lose."

Conventions.

Western Illinois Convention.

Second semi-annual session, held at Oquawka, Henderson Co., Ill., Oct. 2 and 3, 1877; President Kellogg in the chair.

The first business called was the admission of new members, when the following persons enrolled their names:

Chas. Dadant, Hamilton, Ill., (by letter), C. P. Dadant, Hamilton, (by letter), D. D. Palmer, Eliza, Martin Wort, Keithsburg, L. H. Scudder, New Boston, C. W. Green, Oquawka, M. T. Sharp, Oquawka, A. A. Clark, Oquawka, Wm. O. Atkinson. Vermont, L. C. Meadows, Abingdon, Stephen Kennedy. Rosetta. A. M. Blakesly, Rock Island, Dr. I. P. Wilson, Burlington, Iowa, Geo. Bischoff, Burlington.

Lady members: Mrs. L. C. Axtel, Roseville. Mrs. H. L. Scudder, New Boston, Mrs. W. O. Atkinson, Vermont, Misses Fannie E. Roberston and Susan R. Meadows, Abingdon.

Election of officers for the ensuing year resulted as follows: Pres., D. D. Palmer, Eliza, Ill; Sec., W. M. Kellogg, Oneida; Treas., T. G. McGaw, Monmouth; Vice Pres'ts, N. H. Derr, Keithsburg, and Jas. A. Simpson, Alexis.

Motion carried that there be an annual fee of 50 cts. to pay for lights, hall rent, printing, etc., and that ladies be admitted free of charge.

Motion made and carried that subjects for discussion be selected by those wishing information.

THE BEST METHOD OF CATCHING BLACK QUEENS, AND INTODUCING ITALIANS.

Simpson—black queens are apt to run. I take out the frames one by one, look carefully for the queen, and set the frames in an empty hive. If I don't find her thus, I put the combs back, but first shake bees down in front of the hive on a cloth, and look for a queen as the bees travel in, and usually find her. After catching black queen, I cage the Italian queen and put the cage in the hive, in contact with honey; leave her caged 24 hours, then release her, (if by the action of the bees I deem it safe), sprinkling queen and bees with sweetened water or honey; handle bees carefully while doing this.

Haines—confine queen in cage 24 to 48 hours, then dip in sweetened water, and in 9 cases out of 10, queen is well received; best time to find black queen is 3 or 4 p. m.; for holding frames, prefer a frame of 4 corners, instead of hive, and set in front or one side of hive to let dropped bees run into hive.

McGaw—after years of experience I find this plan good: Drive bees into cap of hive or box, place hive on one end of a cloth, the box of bees on the other, make the bees cross over to hive by dipping a few out to get them started; find the queen while crossing. Scent the bees with oil of anice, 10 or 15 drops in alcohol and water, douse the Italian queen in also, and introduce at once; I adopt this plan when away from home and in a hurry, if at home would take a slower method.

Kellogg—cage Italian queen and place on top of frames, under quilt or honey board; on the morning of the third day look through hive, and pinch off all the queen cells and close the hive; afternoon of the same day open hive very carefully, daub queen in a half cup of honey, daubing her all over; drop into hive with a spoon and sprinkle the ballance of honey on frames and bees; close the hive and do not open it again for at least 2 days; many a queen has been lost by opening the hive too soon after introducing.

DO BEES START QUEEN CELLS WHILE QUEEN IS IN CAGE?

McGaw and Kellog never saw it otherwise. Atkinson never saw it done.

Palmer—Find black queen by a plan similar to Simpson's, introduce Italian queen by daubing thoroughly in honey and pouring in honey, queen and all; black bees sometimes keep on raising queen cells after the Italian queen is introduced, until all the black bees are gone.

Axtell—Introduce Italian queen in wire cloth cage; by leaving the cage on top, one is liable to forget it for several days. Have tried another method; use Quinby's hive, take an open-end cage, take off side of hive, cut a hole through the comb, leaving the plug of honey in the hole; crowd open end of cage over this plug; bees will lick up honey, eat out plug and the queen is safely introduced.

Simpson—Mr. Axtell's plan is not good for top-opening hives.

Axtell—Take a piece of comb, cut the hole through and use on top the same as on the side of frames.

Meadows—What is the safest length of time to keep queen in cage before releasing?

Ans.—No certain time—from 24 to 48 hours.

Wirt—How do you make the bees *hold still* while handling?

Ans.—Use rotten wood smoke.

Meadows—At what time of the year is it best to introduce queens?

Ans.—For a new beginner, when there is a good flow of honey; for old hands, almost any time.

HOW MANY HAVE SEEN FERTILE WORKERS?

Scudder—Have had a good deal of experience with them, think there are such *birds*; worked with a swarm all summer, putting in bees and queens; made a failure and had to own up beat by a fertile worker.

Simpson—Had a second swarm, gave them comb, and in two weeks were queenless, gave them a queen cell twice, destroyed by fertile worker, gave caged queen, released in 18 hours and accepted.

Palmer—A stock in the fall, weak or queenless is not worth fussing with.

THE BEST PLAN FOR UNITING, IN ORDER TO PREVENT THE BEES RETURNING TO THEIR OWN STAND AND FIGHTING.

Simpson—I have my nuclei in circles, entrances outward in fall; slowly bringing entrances close together, then unite in one hive, and remove all the nuclei hives.

Kellogg—Sprinkle all the bees with sweetened or scented water and shake bees down in front of one hive, and let them crawl in together, giving the best combs from both hives (or more) for the new stock; look out for robbers.

WHEN IS THE BEST TIME TO PUT IN QUEEN CELLS AFTER REMOVING THE OLD QUEEN?

McGaw—At once.

Wirt—What position do you put cell in?

McGaw—Point down.

Atkinson—Either end up, if well advanced; if not, point down.

Kellogg—Rather wait 12 hours before putting in queen coll.

Meadows—Does age of colony, strong or weak, make any difference?

McGaw—No.

THE BEST MODE OF INTRODUCING VIRGIN QUEENS 4 OR 5 DAYS OLD.

McGaw—Introduce as soon as hatched.

THE BEST METHOD OF SWARMING.

Palmer—I have found it of no use to try to return a first swarm; I use a registering slate on each hive. Always use it on the same side of each hive, and always open each hive on the same side; when a swarm comes off, I mark the date on the slate, return all second swarms, or sometimes put 2 or 3 together.

McGaw—I put a laying queen in the old stock.

Palmer—If I want to increase, I buy the best queen to be found; use a large hive, maybe 20 frames, give it lots of brood; after a time take the queen away, let the bees build queen cells, then break up the stock into nuclei of 1 or 2 frames each, giving each a queen cell. After each nucleus has a laying queen, build it up from strong stocks by giving brood and bees.

Simpson—In the spring I take 2 combs, each from strong stocks to form my nuclei, fill the rest of the hive with comb-foundation. Place 3 nuclei hives near each other and raise my queens there; as soon as my stocks are strong enough to warrant it, I move a strong stock to a new place; give new stock on old stand one or two combs and a queen from a nucleus; keep nuclei strong by giving fresh brood and bees as often as needed; having my nuclei near together, I can easily unite then into one swarm in the fall.

McGaw—I prefer natural swarms, but if they don't swarm by June, and are strong, I divide.

Scudder—I consider McGaw's plan best; keep bees strong and go slow; light stocks are no profit; hold down increase as much as possible and get all the honey I can.

McGaw—It takes from 15 to 20 lbs. of honey to make 1 lb. of comb, so make as little new comb as possible.

Palmer—The extra amount of honey got by keeping down swarming, will more than buy the swarms you would have got by letting them swarm. I keep down swarming by giving plenty of box room; use a double-portico Langstroth hive, entrance at both ends of the hive, 4 Harbison section boxes on top, cap of hive extends out over each portico, so my boxes cover more surface than the main hive; take off boxes as fast as each one is filled; thus giving them plenty of room, keep well shaded, ventilate well; I never tier up boxes.

Scudder—Much depends on locality; I think where I depend on fall forage, I get more honey by having bees in two stocks than I would were they in one, but if the forage is greater in spring, keep down swarming, put on boxes to get early forage.

THE MOST SUCCESSFUL PLAN OF GETTING THE GREATEST YIELD OF HONEY.

McGaw—Keep from swarming and buy your increase.

Palmer—If I had a few stocks and wanted to increase, would stimulate in spring, use graham flour, honey or sweetened water, use a universal feeder, (a large tin can with small holes in the bottom), turn it bottom side down in a tub, (holes down), which will make it air tight. Feed in the open air, and spread brood combs; as fast as the bees can use them, put in empty comb. Divide strong stocks early. Think this plan better than the natural swarming. I put my feed tub 40 ft. from hives.

Scudder—I have robbing from that kind of feeding.

Palmer, Scudder, and McGaw think Italians will rob more than blacks.

Wirt—My black bees will not fight the moth worms.

All concur in this. At this point a discussion was had in regard to bees robbing late in the fall of the year. Many thought it was caused by the space left by the hatching bees, this being unfilled by the queen, the bees are crazy to fill this space with honey.

Kellogg—I think it is caused more because bees must have something to do; can't stand being shut off from their work so short.—Bees will rob when their hives are filled with honey.

WHAT IS THE BEST WAY TO GET BEES OUT OF HONEY BOXES?

McGaw—To take off boxes and place beside the hive won't do when no honey is coming in; robbers will bother.

Scudder—Number all boxes to tell what hive they came from. After most of the bees are out, turn boxes wrong side up placing empty box on them; bees pass from full boxes into the empty one on top.

Palmer—Take off boxes, turn bottom up, and place on cap of hive from which boxes were taken, and cover each box with an empty one; bees will soon go up and cluster in an empty box, and then go around and shake bees down in front of hive. To get out the few bees left in boxes, carry the boxes into honey room, set them on their sides, 8 or 9 high; in the morning those left will be in one or two boxes.

Wirt—I have a dark room in cellar, with outside window darkened and set boxes on bench near window, with ladder to window; bees leave readily and go out doors,

Atkinson and Palmer—To drive bees with the breath, must blow hard, not a light puff. The breath of a bee-keeper must not be scented by strong substances.

Jarvis—I use a part of the plan of Adam Grimm. Have several nuclei, and put my boxes in a large box, bottom up; take one or two frames from a nucleus, and put them in a small hive on top of boxes on small blocks, bees gather in nucleus hive, then shake them off in front of nucleus, from whence take and put the frames back in the hive where they belong.

HOW CAN WE BEST PROTECT OURSELVES FROM BEE STINGS?

Scudder—Bees dislike black or dark clothes; gloves should be light colored and smooth.

Meadows—Have used all kinds of gloves and veils, but work kindly and carefully without and find them not so cross as when handled with protection on.

McGaw—There is a vast difference in bees and the time of the year when handled.

Several present had been badly stung by handling bees after dark.

Palmer—Clothing worn until dirty and full of bee stings ought to be changed and washed twice a week.

Mr. Palmer here showed his "bee shirt;" it has four buttons on wristband and three buttons on left shoulder, no opening on back or in front, and no bees get in; uses a straw hat and a bobinet veil.

DOES FREQUENT BUT CAREFUL OPENING OF HIVES AND HANDLING OF BEES INJURE THEM IN ANY WAY?

Haines—I think it does not.

Wilson—Frames should be put back carefully and in the same place as before, else there is a loss of time in bees fixing up broken places.

Kellogg—Think the loss of time not noticeable.

Palmer—Never open a hive unless you have to. My frames must fit any where, in any hive; let us have our combs straight, then there is no trouble.

Opinion of the society—no harm is done.

Palmer—I have my hives so that I always open on the same side. In putting in queen cells, cages, etc., always put in on one certain frame; I invariably use the third frame.

Meadows—I think the advantages of frequently opening hives and taking care of bees, greatly overbalances the disadvantages, if any exist.

Axtel—The more I handle my bees the more gentle they get, and I get more honey.

THE BEST PLAN TO START BEES WORKING IN BOXES.

Palmer—Take three or four frames out of hive, extract and put back in centre. In cleaning up dripping honey, the bees get a stream started and run clear up into the boxes at once. When I find brood in boxes, I mark the date on box, and return to hive; after time enough has passed for it to hatch, I again look at it, and if all are hatched, I take box off, if not, I replace for a longer time.

Kellogg—Would add to Palmer's plan as above, a sheet of comb foundation in centre frame of box, for a climbing place for the bees; would rather cut out the brood and let bees refill with honey, as comb that has brood in it is tough.

THE BEST METHOD OF WINTERING BEES?

Axtel—I use the Quinby hive, take out side frames, put quilts down sides and on top, and pack empty space with chaff, and winter on summer stands.

Palmer—Winter none but strong stocks, no nuclei; use dry cellar if we can, divide bee part from the rest of the cellar; keep dark and pure air; thermometer not below 32° nor above 50°; have opening in chimney at bottom of cellar, thus keeping bottom of cellar dry and no mouldy combs; to ventilate hive, raise one corner of honey board on little stick, caps off.

Wirt—I use a cellar in sand; have various kinds of success, good, bad and indifferent; fill caps with straw, ventilators in cap; rather have bees in cellar by themselves, thick straw packing one of the essential points of safe wintering.

McGaw—You will save from ⅛ to ⅔ of your winter stores by wintering in a cellar. Put heavy or strong stocks at the bottom, light ones on top.

Palmer—My cellar has 4 windows covered with wire cloth on the outside, space packed with straw; windows on hinges inside, which I open and close according to variation of thermometer.

Atkinson—Our worst trouble is to keep bees cool in a warm spell.

Axtel—Packed in chaff my bees need a temperature of 36°.

Wilson—I winter in a cellar, and have uniform success; I return each hive to the same spot it occupied the fall before.

Palmer—Circumstances will show which is best. If there is snow on the ground when bees are put in cellar and none on when they are put out in the spring, I think it makes no difference as to previous place, and *vice versa*.

Kellogg—Always carry bees out at night, it is much better than in the day time, then the bees begin to fly gradually in the morning and not at once as they do when put out in day time.

Jarvis—Put bees out at night and place on stands just as it happens and find no trouble, keep bees in cellar built in sand bank, from about Nov. 6.

McGaw—Put my bees out without regard to previous place; keep in cellar from 5 to 6 months.

Bischoff—Piled hives in a row covered with boards and straw, a warm day came and bees flew out, returned to old stands and perished.

Haines—Winter on summer stands; let them stand just as they were all summer; never lost any; colonies packed in chaff were a failure, flew out in the snow, and dwindled in spring; use Quinby's hive.

Simpson—In the winter of 1872-3 I lost equally on summer stands and in cellar.

BEE HOUSE.

Palmer—I want a bee house, for wintering bees, storing honey, extracting, a shop, etc. I want to build of brick in a side hill, so that when I am working in the house I can see the bees swarming, etc.

Simpson—Would build about 14x20, two stories, upper story divided into 2 rooms so I could keep one dark.

Kellogg—Would have wire cloth windows and doors made in such a manner that bees could all go out but none get in, will have a model at our next meeting.

Axtel—The doors to my honey room are double, and in the worst cases of robbing have no trouble; doors have one foot space between.

Wilson—Where you have no side hills, would advise using the old-fashioned cellar-cave, about a foot under ground; roof covered with dirt, sod, etc,. and very dry.

Axtel—Think a cellar for bees and a house for a shop can be built cheaper separately than both in one.

Haines—Can bees hear a sound so as to be disturbed by it in winter? Several think not, but feel the concussion or jar.

WHAT SURPLUS BOX SHALL WE USE?

Scudder—I like the Harbison section-frame-box best.

Kellogg—Would prefer a surplus box made up of frames, so that each frame can be taken out without taking the box to pieces; do not like the small 6 lb. boxes, —would not take them as a gift.

Axtel—I use the small frame, set on top of hive loose, three frames fastened end to end by a narrow strip on top, and one clinch nail driven through it into each frame; use as many rows as hive will accommodate.

Atkinson—I use a similar frame and like it very well.

McGaw—Showed the Oatman single comb box, glass on two sides. It depends on the demand, which box I prefer. If I can get 12½ cts. for honey in 40 to 50 lb. boxes, it would pay better than fancy boxes at 20c.

Palmer—Use the Harbison section-box; like it best of anything; this box, in the fall when robbers bother, is more easily taken off than loose frames.

Wirt—Use Harbison small frame (not the section), don't like it. Use another called the Severance frame; hangs in a box; has wooden division boards with holes in; like it very much, though I think it can be improved. Would not the tin separators, used by some, be better with holes in them?

Atkinson—Don't think it will pay for the trouble.

WILL ITALIANS WORK ON BUCKWHEAT AS WELL AS BLACKS?

Ans.—By several, yes.

HOW SHALL WE FASTEN COMB FOUNDATION IN THE SECTION BOXES?

Simpson showed a machine by which it can be put on by foot power; it is also adapted to frame making; a bar of iron presses the comb foundation to top bar of the box.

Kellogg—I soften the comb foundation by exposing to sunshine or stove heat, have a cup of hot water and a putty knife; lay frame on table, top down; lay strip of comb foundation on top bar, edge of comb foundation coming just a little beyond centre of top bar; take putty knife and give it a dip into hot water and mash down about 1-16 of an inch of comb foundation on to the top bar, the whole length of comb foundation, then turn comb foundation up so that it will hang down when the frame is turned right side up; can do it very fast; it gives a strong fastening if done right.

WHERE SHALL WE STORE HONEY?

Several—In as dry a place as possible; not in the cellar.

Bischoff—I closed up my boxes of honey to keep honey from sweating; it did not prevent it.

Atkinson—Think sweating is caused by moisture condencing on the surface of the comb.

SHALL WE USE COMB FOUNDATION? WILL IT PAY? WHEN AND WHERE?

Kellogg—It will pay; would use it for guide combs in surplus boxes in preference to comb; where there is but a light though steady yield of honey, would use it in brood frames, and in light stocks, frames nearly full of it, but when there is a great flow of honey would only use for guides and in nuclei stocks. Strong stocks break it down in great honey yields; would advise those who try it to get five cells to the inch, then you can use it both for brood and surplus boxes.

McGaw—Used 5 lbs. of white comb foundation, but would never buy it again; prefer the yellow for all purposes.

HOW TO PREVENT SWARMING.

Scudder—Nail wire cloth over the porticos.

Atkinson—Wouldn't brimstone be as good?

Palmer—Tried wire cloth once; combs all melted down, learning me a lesson.

Axtell—In fall, save all empty combs fit for surplus frames; in spring, have honey boxes all ready and as soon as honey comes freely, put on boxes at once, with one empty comb in centre of box, one to each hive, more if possible. Put a few boxes on at first, then more, as fast as needed. Queen must have room for brood in early spring; change boxes as fast as filled.

McGaw—I use about the same plan; cut out queen cells as often as I can, and put in an empty frame.

Wilson—I advise the plan of keeping one or more light stocks to build comb foundation, and to trim up combs from transferred stocks, giving them combs from other stocks.

Haines—Advise using holes five thirty-seconds of an inch in diameter to keep queen from going out.

Atkinson, Palmer, McGaw, and others, think it impossible to do it in that way.

Palmer—Use large entrances; ventilate well; give large amount of box room; shade well.

HOW SHALL WE GET STRAIGHT WORKER-COMB?

Atkinson—Use comb foundation 4 or 5 inches deep in the frame,

Kellogg—I used it that way, and the bees built much of it down with drone comb.

Scudder—Tip hive forward, examine every few days and straighten comb if crooked.

Axtel—In a new swarm give 1 full comb in center; as fast as bees get frames nearly full, spread and put empty ones between.

Palmer—Use all weak or nuclei hives as comb builders; strong stocks for boxes.

PURITY OF QUEEN.

Haines—Give a black stock eggs, laid by a pure Italian queen, and let them raise a queen from those eggs; is that queen pure?

McGaw, Palmer, Atkinson, Scudder, Kellog, Axtel and others answer, yes. Haines, no.

WHICH WAY SHOULD HIVES FACE?

1st preference, south; 2nd, east; 3d, west; 4th, north.

WHICH WAY DOES A SWARM FLY?

Atkinson—When bees swarm do they fly in a uniform direction in regard to points of compass? A Majority of the members think they do.

Scudder—I think they fly in the direction from whence their supplies come.

Wilson—I think wind blowing the scent from flowers draws them.

A NEW DEPARTURE—PRIZES.

A letter was read from Chas. Dadant & Son, regretting their inability to attend our meeting, and offering the following plan for approval:

At the spring meeting all the names of the members present be written on pieces of paper and put in a box. Then some one be appointed to draw out names. The first name drawn will be entitled to a full colony of bees, with an imported queen. The second name drawn will be entitled to an imported queen. Both the above offers given in the name of Chas. Dadant & Son.

Other members, not to be outdone, offered the following:

Hardin Haines, for the 3d name, an imported Italian queen; for the 4th name, a queen bred from an imported Cyprian queen.

T. G. McGaw for the 5th name, a tested Italian queen; for the 6th name, a dollar queen.

D. D. Palmer for the 7th name, 1 doz. "Sweet-Home" raspberry plants; and for the 8th name, 1 plant ot each of the following: Doolittle, Mammouth Cluster, Golden Thornless, Davidson's Thornless, Seneca, Miama, Ganargua, Brandywine, Philadelphia, Lamb's Ever-bearing and Brinkley's Orange.

The society accepted the plan and offers, and voted thanks to the doners.

RESOLUTIONS.

Resolved, thaf we thank Mr. Hodson for the free use of his hall; may his life pass sweetly and pleasantly.

Resolved, that our thanks are due to the proprietor of the Smith House for the low rates given to bee-keepers, good fare, good beds, and especially, courteous treatment.

ARTICLES ON EXHIBITION.

T. G. McGaw, jars of extracted, white clover, and buckwheat honey.

J. Oatman & Co., two-glass, single comb and Novice's new smoker.

W. O. Atkinson, and M. T. Sharp, loose section frames of honey and Novice's two-inch Langstroth frame of sections.

Hardin Haines, a neat, black walnut case, holding one comb (Quinby) with Cyprian queen and a few of her workers among a lot of hybrids and Italians: the members present could see no difference between the so-called Cyprian and the common Italian.

W. M. Kellogg, home-made honey extractor, straight and curved blade honey-knives, bee-feeder, King & Quinby bellows smokers, box of 12x18 in. sheets comb foundation, and box of Harbison's section-frames, full of honey; also specimen copies of the three bee papers for distribution.

Jas. A. Simpson, honey plant and seed, with honey gathered therefrom, *Scrofularia Marylandicae*; machine for putting on comb foundation; and an insect called the "red-eyed *cicada*," very distructive to bees.

D. D. Palmer, a little 2x3 inch slate.

A number of ladies cheered us by their presence, and also many townfolks. One lady came several miles, who was so sick she could not keep up all the time, but was so interested in bees she "couldn't keep away." Plucky Mrs. Axtell.

Adjourned to meet at Burlington, Iowa, Tuesday and Wednesday, April 23 and 24, 1878. D. D. PALMER, Pres.

WILL M. KELLOGG, Sec'y.

North Missouri Convention.

Met at McCredie, Callaway Co., Mo., Oct. 29: Pres. Hamilton in the chair. After reading the minutes of last meeting Mr. J. A. Reed, of Hallsville, and Dr. T. W. Reed, of Macon City, were received as members.

COMMITTEE ON PRICE OF HONEY.

We, the committee for the investigation of "bulk and prices of honey" beg leave to report, that from all the points of inquiry, we find the crops are short, not exceeding one-half our former crop, and prices proportionately higher. From Cincinnati C. F. Muth reports: Extracted honey, 12 @ 15 c. per ℔; box honey, from 18 @ 22 c. per ℔.—C. O. Perrine, of Chicago, reports: Extracted, 12 @ 17 c. per ℔. From New York no box honey is reported; extracted 11 @ 15 c. N. P. Allen, of Ky., reports, extracted 15 @ 18. From Monmouth, Ill: Extracted, 12 @ 15 c. No box honey in the market.

P. P. COLLIER, } Com.
J. P. SALLEE, }

It was asked, Shall the committee be discharged?

W. W. Trimble suggested that the committee be continued, and R. L. Davis and H. Hamilton be added to the committee, and report at our next regular meeting.

Bills were presented by P. P. Collier and J. A. Hamilton for stamps and stationery, used for Association.

The Treasurer's report was then received.

The constitution was amended so that ladies are admitted as members free of charge.

It was suggested that each member use his best efforts to secure a prompt attrndance of all interested in progressive and scientific bee culture. Also, that we do all in our power to bring honey into more general use, to supersede the worthless sweets now in the markets.

IS COMB FOUNDATION ADVANTAGEOUS?

This subject was discussed in a masterly way, in a very able paper, by P. P. Collier, in which he showed the great saving of honey to the bees. Econemy of time in comb building and as a means of securing worker-comb, inducing bees to work in sections or boxes.

W. W. Trimble—Can any one tell what proportion of the bees are engaged in the construction of comb?

President—Some say two-hirds.

A. A. Collier—Does not wax grow on all worker bees alike? He has seen the wax protruding from under the scales of bees while at work; believes it is removed by the young bees, and comb constructed of it when it becomes burdensome.

W. W. Trimble spoke of the advantage that must arise from the use of comb foundation, and asked: If bees fill a hive with comb, how long will they be in doing it?

P. P. Collier—Nine days is the shortest time in which bees will fill a hive.

W. W. Trimble thinks it takes his bees from one to three months to fill their hives.

P. P. Collier—Wax is as natural a production, after eating honey, as is fat by a hog after eating corn.

W. W. Trimble—The secretion of wax by the bees is like the secretion of milk by the cow; it is increased in proportion to the amount of food consumed.

A. A. Collier—Bees produce no wax in cold weather.

J. P. Sallie—The whole matter of the production of wax is speculation. At certain periods in a bee's life they produce no wax. When they do not have access to the fields, they produce no wax. They obtain it from flowers.

Secretary—Among the experiments of Huber is that of confining bees in a hive and feeding them honey, to see if they would produce wax, which they did in a very short time.

Association adjourned until Thursday, 2 p. m.

Dr. T. W. Reed, of Macon, called the attention of the Association to a model hive, which presented some valuable features, showing that its inventor was familliar with the nature and habits of the honey bee.

A report was then taken of the number of stock of each last spring, the increase and the amount of honey taken.

H. Hamilton reported 77 in the spring, increased to 152; obtained 5,250 lbs. extracted honey.

S. S. Riley had 4 in the spring, increased to 10; took 250 lbs. of honey.

P. P. Collier reported 11 in the spring, increased to 17; obtained 500 lbs. extracted honey.

J. J. Crowson began in the spring with 11, increased to 44 and sold $30 worth of honey at 12½c. per ℔.

A. A. Collier had 11 in the spring, increased to 14: obtained 675 lbs. of honey. Obtained 204 lbs. in seven days. Sold his crop at 12½ and 15 cts.

J. L. Craig, 1 hive in the spring, increased to 11; obtained 160 lbs. extracted honey.

J. P. Sallee reported 50 in the spring; obtained 1,500 lbs. honey, 300 of which was box honey.

P. P. Collier had found old combs to be of great value in facilitating the work in new swarms. Has in his apiary 15 or 16 frames of comb, composed entirely of small pieces fastened together by dripping melted wax in the seams; finds it necessary to have the same edge of the comb up as it had in the original hive; had found it of great advantage in inducing bees to work in boxes; he destroys moths and eggs by the use of brimstone.

S. S. Riley asked, "How can you tell the differance between a moth's egg and that of the queen?

Mr. Collier said, "The queen deposits only one egg in a cell, while the moth miller lays her's in clusters; the eggs of the queen are larger.

Mr. Crowson has seen two eggs in a cell.

Pres. They were probably the work of a young queen, or fertile worker.

H. Hamilton had considerable experience with old combs; they were of great advantage; made seventy-five new swarms this season, gave them combs of bees that had died the previous winter, and in two weeks were very strong.

Mr. Crowson asked how long old combs may be used.

Hamilton has used comb for eight years, and they are as good as new.

Mr Collier was of the opinion that old combs do very well for honey but are not so good for brood, as the cells are made smaller by the cocoons, and the bees raised in old combs will be diminished in size.

On motion Dr. T. W. Reed, of Macon, was elected Vice President from Macon, as the constitution provides that each county represented shall be entitled to a Vice President.

Moved and carried that the present officers hold their offices until next regular meeting, which will be held in Martinsburg on the third Wednesday in May, 1878.

The following resolutions were unanimously adopted:

Resolved, That the Association tender its thanks to the owners for the use of this hall.

Resolved, That we, the members of this Association, return our heart felt thanks to the citizens of McCredie and vicinity for the generous hospitality extended to us.

On motion the Association adjourned to meet in Martinsburg on the 3rd Wednesday in May, 1878. H. HAMILTON, Pres.

J. A. HAMILTON, Sec.

Michigan Convention.

The eleventh annual convention of the Michigan Bee-keepers' Association met at Adrian, Dec., 19, 1877. Prof. Cook in the chair. The Secretary being absent, Mr. A. Fahnestock, of Toledo, was elected Secretary *pro tem.* The treasurer, Mr. J. Heddon, being absent, he sent the following letter, which was read:

Dowagiac, Mich., Dec. 17, 1877.

DEAR PROF. COOK:

"Up to this evening, I expected to be with you in convention. Warm weather, and housed bees, forced me to stay and take care of them. We go to conventions to learn *how* to take care of bees. We stay at home to *do* it. I send you by mail my feeble effort at a paper on "Honey Markets," also P. O. order for $4.00, the amount of money in the treasury.

I also send you a sample of honey-boxes, and section-frames, made in New England, and of which I have the agency in this state. I expect to sell them as low as they could be got at the factory. They are made of young spruce wood, and are the nicest boxes I have seen. I have also invented the cheapest and best case for shipping boxes, (glassed), or section frames, not glassed, and had it ready to bring; but now it must stay at home. I *think* it is best, at least. If I were with you, I should endeavor to prove that all boxes should be glassed before put to the bees. When boxes are made as these are, so that the glass passes by the edges *all around*, there is no danger of daubed glasses; and such boxes are honey tight, if a comb *should* leak.

I still think, and shall be frank enough to say, that I think there is already honey enough produced to supply all future demands, at any price that will pay costs of production; but whoever does raise honey to sell, it will be best for *all* to have it stored in salable shape, at good prices. If the convention was 50 miles away, we could leave our business and bees. Won't it prove that we should have a south-western association and local conventions generally?

With best wishes to all brother producers, I subscribe." JAMES HEDDON.

This opened a discussion upon

GLASSED BOXES *vs.* SECTIONAL FRAMES.

Mr. Butler, Jackson, for 2 years past, has raised his honey in sections, and discarded the glass.

Prof. Cook said, many expert apiarists, among them Mr. Betsinger, thought even the sections should be glassed.

Mr. A. H. Russell, Adrian, said he put his honey up in 1, 2, and 3 card boxes. He glassed his boxes before he put them on.

Mr. Butler favored the section plan, for the reason that many consumers would not like to buy a pound of glass and wood with but a small quantity of honey.

Dr. Southard, Kalamazoo, found the section plan the best for that market. There was no glass or wood to sell.

Mr. Van Rensselaer, Ottawa. O., did not favor glassing the honey.

The President said it was a very important point to put on but a portion of the boxes at first, in the spring.

J. W. Benedict, Tecumseh, asked when was the time to put on the boxes?

Dr. Southard said, when the hives were full of bees, and there was honey to gather.

The President expressed himself in favor of the light sections, and he would make them to hold just a pound. He thought the use of separators with the sections advisable.

Mr. Fahenstock, of Toledo, said that he would give an instance of his experience.—He had observed that there was a great deal in the looks of things. He had used both kinds of boxes the same season, and both were equally well-filled. The honey was beautiful, in the wood sections, but all he could get for it in the market was 13 cts.—He took in his glassed boxes and sold every one, before he left the store the first day, readily for 20 cts. per ℔, glass and all.

Mr. Bingham, Abronia, was satisfied that the small boxes would sell better in the cities. He said the nearer one got to penny packages, the better they would suit the city trade.

Dr. Southard, of Kalamazoo, said he used small sections, but put them into a frame of his own invention, and used as many sections as the size of the colony would warrant. He got his box stuff at the honey box factory in Grand Haven. The cost of each section box is about two mills. These sections are 4 inches square and 2 inches wide.

Mr. Butler, Jackson, hived his swarms on full comb and brood, and in 20 minutes after they were hived they were at work in the sections. Of the artificial comb, he used that which was five cells to the inch. He had never used any separator, for he didn't think it necessary.

The next subject was

EXTRACTED HONEY.

Prof. Cook expressed himself strongly in favor of extracted honey. He preferred to sell it, and could make more money by extracting it. He could sell for 12 cents, and make more than he could in the comb at 25 cents. He gave his experience in disposing of it, the cost of putting it up, etc.—He said he would put it up in jelly cups, and the cost would be about 4½ cents. He would not label any honey first-class unless it *was* first-class. They could'nt afford to be dishonest in recommending their wares. They must grade the honey.

Mr. Bingham said the President had spoken of labeling the honey "pure basswood," "pure clover," etc. He tried that once and got notoriety. He had some very nice basswood honey, and had labels printed "pure basswood honey," took a bottle of it to the editor of an Allegan paper, who, after duly testing the same, gave a notice in his next issue that he was in receipt of a very superior article of pure basswood honey, from Mr. Bingham; and the next week, one of the Detroit papers stated that an Allegan genius had succeeded in making honey from basswood.

Mr. Southard, of Kalamazoo, said he was growing more in favor of extracted honey. He found Mason's quart cans the most economical; could fill a quart can and sell it for 55 cents, receiving 15 cents for his honey, and the can was always good.

Mr. Butler, of Jackson, said that more money can be made by extracting, but sales are not so freely made.

Mr. Van Rensselaer favors having an extractor at once. Extracted honey sold more readily than comb honey.

Mr. Bingham, Allegan, thought not more than 10 or 15 per cent. more honey could be got by extracting.

Mr. Everett, Toledo, put his honey in jelly cups, and used a tin cover. It retailed very nicely in Toledo.

Dr. Southard explained the mode of extracting honey.

Prof. Cook said it was not necessary to wait for the bees to cap the honey.

Mr. Thompson, Detroit, explained a cheap extractor of his own manufacture.

Mr. Bingham then read the following essay on "Cheap Honey:"

CHEAP HONEY.

Many have been the reasons assigned for the steady decline in the price of honey.

Mr. Moore says, "the proceedings of the National Society ought to be sown broadcast, especially to small bee-keepers, who have but little honey. They throw their honey on the market for just what they can get, and in that way spoil the market for large producers.

Mr. Heddon thinks that Prof. Cook's course, in the same convention, would be the ruin of all the small bee-keepers; yet Mr. Moore, Prof. Cook, and Mr. Heddon wish to accomplish the same end, namely:—Keep up the price of honey. In the matter of price for honey, no standard can be fixed by the conventions or associations. Bee-keepers may strive to limit productions, monoploize the business and look wise, but that mighty force, known as the "omniverous stomach," will be the important factor, and dictate the price.

The tendency of the honey market has been entirely in the direction of the consumer, and the producers do as others have done in other things having a fancy price,—namely: Shift from one expedient to another, in the vain endeavor to keep up the price.

The plan now having its run, like measles and whooping-cough, is to keep up the price by making the packages smaller.—This plan may succeed; candy has always paid a fine profit in net packages of half ounces each, at the standard price of a cent per stick!

Who is the coming man, to bring forth one cent packages of honey, having tin corners, and glass sides, and richly embossed?

Don't laugh! Nothing is ridiculous, after you become accustomed to it.

In the persuit of that once popular silver dollar, men see something that they covet, but do not want to steal; no, it would not really do to steal,—at least until the way had been oiled over, and texts quoted, opportunities surveyed, and duty, that plastic clay, carefully located.

He that steals my purse, steals trash; but he that filches from me the credit of my penny package steals that which doth not enrich him, but makes me poor indeed.

Mr. Overmayer, of Sandusky county, Ohio, had marketed 10,000 lbs. yearly. He put it up in all kinds of packages, but principally in the gem jars, which he sold for 50 cents. He sold none to grocers, but his neighbors and the people around took all he could make. He said his bees had averaged him a

hundred pounds a swarm. From 5 colonies he got 725 lbs. of honey, and increased his colonies to 35. But he had to feed them after the flowing season.

Mr. Butler, of Jackson, claimed that he could not extract honey without injuring more or less of the brood. He would not dare to extract as closely as Mr. Overmayer had said was his practice.

The Secretary had said he had seen Mr. Overmayer extract the honey from a colony owned by a man near Toledo, and the operation was very successful; the cells were entirely exhausted; brood was not disturbed.

President Cook sustained Mr. Overmayer's views, and said he never hurt any brood in extracting. He also believed in feeding. He said he thought there was more in the talk of "foul brood" than in the reality. He didn't think foul brood would result from the use of the extractor.

Mr, Everett, of Toledo, asked if there was not danger of extracting too close from a two-story hive.

Mr. Overmayer said in case of a two-story hive he would extract the upper story first and then change positions.

Mr. Bingham said that in Michigan it would not do at all to throw out the honey as closely as Mr. Overmayer had done.

Mr. Bingham moved that each gentleman present hand in his name, place of residence, number of colonies he had last spring, number of colonies now, honey, box or extracted, raised during the season, and amount it was sold for. The motion was adopted.

COMB FOUNDATION.

The President opened the discussion of this question by a few remarks, and said he used artificial comb foundation with great success. The great trouble with it is that if filled it would "sag," and this objection must be met, and without doubt *would* be met. The remarks made at the National Convention on Novice's Foundation, by Mr. Newman and Mr. King, rather surprised him. He found that bees generally thinned out foundation if too thick.

Mr. Newman, editor of the AMERICAN BEE JOURNAL, said it was very certain that bees sometimes would *not* thin out the foundation, and if it was too thick it was unpleasant. But sometimes they would, and if the foundation could be thin enough it would be a great improvement. The matter of sagging was an objection. Capt. Hetherington, of New York, was experimenting with it, and had invented a plan for preventing it; he had found it a success so far, and if he continued to find it successful, he would make his plan public, but he was opposed to advocating anything till well tested and found to be absolutely successful.

Mr. Bingham thought there was no necessity for the use of the starters at present. He said drone comb could be easily cleaned by pouring over it water from a sprinkling-pot, and it made the nicest kind of starters.

Mr. Butler said the comb foundations were a perfect success with him. He had used large quantities, some thick and some thin, and thought there was no difference.—He thought a great deal of it for box honey, and never found any trouble in disposing of it, but never used it for brood purposes.

Mr. Bingham was not opposed to comb foundation. He thought it a success.

An essay was then read on Honey Plants, which will appear in the next JOURNAL.

Mr. Thompson, of Detroit, said he had much experience in raising mignonnette.—Feared it would be a failure at first, but when it did start it exceeded his expectations, as a bee plant. It continued to bloom from June 15 'till hard frosts.

Mr. Russell was elected Treasurer of the Society *pro tem.*

"What shall we wear," was the title of a paper by Mrs. L. B. Baker, of Lansing, which was read.

[This will appear in the next AMERICAN BEE JOURNAL.—ED.]

Dr. Whiting, East Saginaw, said most bee-keepers were discarding rubber gloves. The danger of being stung on the hands was very slight.

Mr. T. G. Newman, of Chicago, then gave the following address on

MARKETING HONEY.

Mr. President, Ladies and Gentlemen:

To meet with you on this occasion, and unite in the discussion of themes that interest every apiarist is indeed a pleasure,—the more so, because this association is one of the oldest and best on the continent; many names of its members being "household words" in thousands of homes—not only in this country, but also in Europe and Australia, and when, by means of that mighty lever—the printing press—we transmit to a World your "thoughts that breathe and words that burn,"—they echo and re-echo "to Earth's remotest bounds!"

The honey market is a subject that interests every apiarist. In order that honey may be sold readily, it *must be attractive!* Has it never occurred to you to enquire why bolts of muslin are labeled with lithographs of luscious fruit? Or why boxes of fancy toilet articles are adorned with lithographs of enchanting faces with bewitching smiles? Answers to such questions offer us instructive lessons that will pay for the learning! Manufacturers know full well that in order to have their goods sell readily they must be attractive! No matter how good the quality, nor how cheap the price—they must *attract* and *please the eye!*

To-day, Comb Honey is *the preference* for table use, and if we would cater to the public want, we must produce that article in the most attractive shape. This must necessarily be arrived at by growth! We could not jump at once to "the most desirable shape,"—but by steady, forward steps, we hope soon to approximate perfection!

The larger boxes of yore with many combs are rapidly going out of demand, and now it is difficult to dispose of those having more than 2 or 3 combs, at any price.

As if "sniffing from afar" the breezes of public opinion, Mr. Harbison invented the California sectional frame, and placed carloads of honey upon the market in it. These were readily accepted, and but for the following reasons would soon have become general:

1. Though readily divided by grocerymen, it puzzled them to devise means to pack such combs without side protection with other goods, and deliver to their customers without seriously damaging them.

2. In the retail stores, not being protected from dust and dirt, honey in these frames soon became unattractive to consumers.

But again invention comes to the rescue, putting upon the market single-comb frames, so coustructed that they may be easily glassed when taken from the hive

and packed in a neat and cheaply constructed crate, containing a dozen combs. Such crate and boxes I have here for inspection, with a box of teasel honey.

In a shape similar to this, Capt. Hetherington has this year put up 75 tons of comb honey, and sold it for $30,000.

In a shape similar to this, C. R. Isham sold his crop at 25 cents per ℔.

In this shape N. N. Betsinger sold his crop at handsome figures.

In this shape G. M. Doolittle sold 10 tons of comb honey to Thurber & Co., New York, and was awarded the $50 Gold Medal for "the best honey in the most marketable shape" at the meeting of the National Convention in October.

No product of field or farm varies so much in price as honey; and why? Because the unattractive manner in which some put it upon the market causes it to be classed as a second or third rate article.

A trip through Water street, Chicago, last week revealed the fact that white clover, comb honey was quoted at different stores, all the way from 14 to 22 cents; the price being governed by the style of the packages, and manner of putting up for the market.

In Thurber & Co's. Price List for Dec. 6, 1877, we discovered that comb honey, of the best grade, was quoted at 25 cts. per ℔, in the Prize Box and Crate, while the same honey in 3 comb boxes was quoted at 21 cts. These are facts that need no argument.

The "Prize Box" and "Crate" should be made in manner, form and substance like the sample before us. The box is 6 in. high and 5 in. broad, and when packed in the crate, stands upon its top-bar, for safety in sending to market. The lumber of the box is ⅛ and ¼ in. thick, and is sawed smoothly; with the cover, sides and ends of the crate planed, in order to make it the more attractive.

Heretofore, I fear, we have been "measuring ourselves by ourselves," too much.—We have copied each other in the matter of marketing—instead of enquiring of our wholesalers, our retailers and our consumers what their needs and preferences were. Only in the latter way can we expect to arrive at a correct conclusion.

The demand will doubtless increase a hundred-fold! It only requires to be attractively put up, to find ready sale at good prices. Nearly all the desirable honey is now disposed of,—that which remains unsold is mostly the unattractive. If we can but meet the requirements of consumers, there will be no trouble to sell all the honey that can be produced on this continent.

Dr. Whiting, Saginaw, indorsed what had been said, and remarked that it was his chief object in coming to the convention to see that this point was fully discussed. He had put up his honey in cases, but sold for seventeen cents. When he saw the honey put up in a different case, no better honey than his, and sold for twenty-five cents, he couldn't stand it.

After a quartette by vocal singers, the President announced that at the last meeting a committee to report on

WINTERING BEES.

was appointed, and he expected Mr. Cheeny to be present, but read a letter from him to the effect that he would come if possible, but fearing he could not, he sent a paper he had written upon the subject, which will appear in the next JOURNAL.

Dr. Southard said to winter bees successfully you must have the moisture expelled, and he never succeeded even in a good dry cellar, but that packed in chaff on the summer-stand he has not two per cent. loss.

Mr. Butler said one important point has not been touched. It was the moisture in the hives. He had built a good, dry cellar, and had fair success; but the moving out and back was too much labor. Besides, if moved out the bees would fly out, and having been in the dark, they would come out as soon as they could see light, and many would perish and the hives soon become depopulated. This was the objection to cellar wintering. He had adopted the chaff method for the past six years with perfect success. He hadn't lost two per cent.

Mr. Benedict, from Bennington, O., said he he didn't think of taking special pains to house bees for winter except to save honey,

Mr. Russell, of Adrian, said he wintered his bees in his cellar, and experimented. He left some of the colonies in the cellar all winter. Others he took out in February and gave them a flight. After that they were very troublesome, and he had to keep carrying them out. Some he kept in just six months, and they came out best of all. He would winter a hundred colonies this winter, and would not take out one of them unless obliged to.

Prof. Cook said that he thought no bees should be carried out if they were quiet. He thought the 6th of April as early as pollen could be gathered.

Mr. Whiting said that care should be taken to have the comb warm when put into the cellar, otherwise moisture would gather in the hives. He gave the following rules for wintering bees:

1. A sufficient supply of good ripe honey.
2. Bees enough to cover the frames.
3. Good pure air in proportion to size of swarm, but no draft through the cluster sufficient to chill them.
4. Freedom from condensed moisture.

Mr. Butler said bees should never be left out till the hives became frosted.

Mr. Van Renssalaer, of Ottawa, Ohio, exhibited a model of a bee house, and explained it.

Mr. Bingham instanced a case of "freezing out" this fall. His neighbor, A. S. Weeks, had a colony in a 12x14-inch Quinby hive. It sat near the ground, and in November, when the the thermometer was fifteen degrees above zero, it frose to death. Mr. Weeks was one of the most reliable bee raisers in that section.

Mr. Southard gave his method for preparing boxes for wintering, as did Dr. Whiting. Both used straw and chaff.

Mr. Beal, of Macon, said he lost fifteen swarms, and there was not a dead bee in or about the hive, and plenty of honey, and still they had left for parts unknown.

Mr. Benedict said he examined a case of that kind, and found the honey watery and sour.

Prof. Cook said bees will leave for many causes in the winter, such as loss of queen, sour honey, or any disturbance.

Prof. Cook then read an article on the management of bees at the college, which will duly appear in the JOURNAL.

THURSDAY'S SESSIONS.

The following resolutions were passed unanimously:

Whereas, The All-wise Father has blessed the apiarists of our State and country with health and prosperity for the past year, and

Whereas, The people of Adrian have given us a kindly welcome, and

Whereas, Mr. A. H. Russell has spared no pains to make our meeting successful, and by his efficient labor, helped to make this one of the best meetings of our society, and

Whereas, The Central and Lawrence Hotels have shown their appreciation of our efforts and cause by offering reduced rates to our members, and

Whereas, The Quartette, oy their sweet music, has added to our enjoyment, and

Whereas the Adrian and Madison Grange and Sovereigns of Industry, have kindly

granted the use of their hall at very low rates for our deliberations, and

Whereas, The reporters of the Adrian Times and Detroit Free Press have aided in extending the influence and good of our deliberations, and

Whereas, The large delegation from Ohio have by their encouraging presence given valuable thoughts and suggestions during our discussions, and

Whereas, Our absent and able Secretary, whose inability to be with us we very greatly regret, has never spared any pains to make our meetings interesting and instructive, and who has done so much to give our society its proud position, and

Whereas, Mr. T. G. Newman, the genial and very able editor of that firm and "long-tried friend" of not only American, but of European, and even Australian apiarists, and which is ever alert to do us all good, giving our conventions and societies its fullest encouragement (would that it was in the hands of every bee-keeper), has done so much to add to the interest and benefits of this meeting; therefore,

Resolved, That our hearty thanks be tendered to God, the Giver of all Good; to the good people of Adrian, especially to Mr. A. H. Russell, and the proprietors of the Central and Lawrence Hotels, and to Mr. Everies and daughters; to the proprietors of this Hall; to the AdrianTimes and Detroit Free Press; to the gentlemen in attendance from our sister State, Ohio; to our absent Secretary, H. A. Burch; and to Mr. T. G. Newman; may he long continue at the head of the AMERICAN BEE JOURNAL, and that old BEE JOURNAL at the head of apiarian papers the world over.

HOUSE APIARIES.

Dr. Whiting, East Saginaw, did not think much of them; they were breeding places for moth, and their expense would preclude practical apiarists from indulging in them.

Mr. Bingham said Mr. Burch had lost his house apiaries by fire, and he had not rebuilt them. Actions spoke louder than words.

Mr. Thompson, Detroit, had visited Mr. Reno, in Illinois, who had forty colonies in a house apiary, and was entirely satisfied with it.

Mr. Russell had little experience in keeping bees in house apiaries, but did not like them.

Prof. Cook explained a house apiary, and said he contemplated building one at the Agricultural College next season, in order te experiment with the matter, and prevent stealing, from which they had suffered much the past season.

Mr. Bingham said men who had built house apiaries were not anxious to build others, and winter out of doors.

Mr. Russell had lost more bees wintered in his house apiary than in his cellar.

"CREATING A HOME DEMAND FOR HONEY."

was the next topic discussed by Mr. W. L. Porter. [This will appear in our next.—ED.

Dr. Southard said he found farmers ready to purchase extracted honey, if the packages were worth the money asked for them.

Mr. Benedict had no difficulty in selling all his honey in his immediate neighborhood.

Mr. Newman spoke of creating a demend in Chicago for good honey. One groceryman of his acquaintance had sold upward of 60,000 pounds since September.

Mr. Butler had disposed of 4,000 pounds of comb honey in Jackson this season before Oct.

Mr. Stearns, Adrian, thought consumers would prefer the extracted to the comb honey if they knew they were getting genuine honey. Extracted honey should not be held at higher rates than maple syrup or clear syrup made from white sugar.

Prof. Cook said Mrs. Baker had created a market in Lansing, and she now found it impossible to supply one grocer all he could sell.

The following resolutions were adopted:

Resolved, That we favor increased pains among our apiarists to make all honey attractive before putting it on the market.

Resolved, That we advise our apiarists to encourage the market for extracted honey.

Resolved, That we advise the securing of surplus comb honey, in small sections or frames, with glass over faces.

THE ELECTION OF OFFICERS

resulted as follows:

President—A. B. Cheney, Sparta Center, Kent county.

Vice President—A. H. Russell, Adrian.

Secretary—W. L. Porter, Northville, Oakland county.

Treasurer—Dr. Whiting, East Saginaw.

On invitation of the Treasurer elect, the next semi-annual meeting was ordered for East Saginaw, the second Wednesday and Thursday in April next.

APPARATUS.

Dr. Whiting, chairman of the committee on apparatus, reported the following on exhibition:

Hives, by the following: A. H. Russell, Adrian; John Randall, Lenawee county; J. N. Becker.

Smokers: The Bingham, Quinby, Root, and Van Rensselaer. [The committee decided no to recommend anything—but will say the Bingham smoker suits them best.]

Honey Boxes: The Isham, Doolittle, Hetherington, Russell, and Southard & Ranny.

Crates: The Hetherington Crate, and the Southard & Ranny Rack.

Honey in Boxes: White clover from Miss Lucy H. Wilkins, A. H. Russell, Southard & Ranny; Teasel from T. G. Newman.

There were several models, &c. All of the apparatus were inspected by those present, and added much to the interest of the Convention.

FANCY SYRUPS.

Just before adjourning for dinner, Mr. Bingham requested that one of the topics for d scussion immediately after dinner be fancy Syrups, known as Silver Drips, Golden Drips, etc., sold by all grocers, and used largely on pan-cakes. He requested that Mr. Russell furnish for illustration some best Japan tea, and such samples of syrup as he could find at any of the groceries.

Upon assembling, the tea and specimens of syrup were produced. After being mixed, the mixture was shown and compared with the original tea and also with the syrups. The result was simply startling. The light amber tea was turned as black as ink by the silver and golden drips.

Mr. Bingham then explained the cause of the change in color, and stated that it was due to the sulphuric acid contained in the syrups, which were in the main obtained from corn-starch, treated with sulphuric acid, and known as "glucose," sweetened with New Orleans and other grades of molasses or granulated sugar, as might be desired to bring the syrup to a given shade and price. Mr. Bingham stated that this subject had been taken up by the State Board of Health, and the sale and use of said syrups condemned as detrimental to the public health.

In accordance with said decision, the convention requested that a committee of three be appointed to bring the subject before the legislature at its next session, praying that this most pernicious adulteration, so seductive in its form and baneful in its consequences, should receive such condemnation as such an evil demands. The President appointed the committee as follows: T. F. Bingham, Abronia; Dr. L. Whiting, East Saginaw; James Heddon, Dowagiac.

Mr. Butler, of Jackson, read a paper on "What shall we do with our surplus stocks?" This will appear in the next A. B. J.

The Convention adjourned to meet at East Saginaw, April 9 and 10, 1878.

A. FAHNESTOCK, *Sec'y pro tem.*

[Questions with answers and a statistica table will appear in our next issue.—ED.]

THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

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Contents of this Number.

EDITOR'S TABLE:
Editorial Items....27 to 34
How to use Prize Boxes on the Hive....28
Alley's New Hive....28
Norway Maple....28
Honey Adulturation....29
The Apiary by Geo. Neighbour & Son....29
Mygratory System of Bee-keeping....30
Bellows Bee Smoker....31
Death of Dr. J. P. Kirtland....34

MARKETING HONEY:
The Betsinger Prize Box....34
Glucose not wholesome....35
The Gold Medal Honey....36
Boston Honey Market....37
American Honey for Export....37

SOUTHERN NOTES:
Notes from Georgia....38
Grape Sugar....38
Transferring Bees....38
Wax for Fastening Combs....38
Two Queens in a Hive....39

FOREIGN NOTES:
The large Bee, Apis Dorsata of Java....39
The Mating of the Queen....40
The Bag-Pipe Bee....40

CORRESPONDENCE:
Honey Markets....41
Comb Foundation....41
Fertilization in Confinement....41
Wintering—Shading Hives....42, 43
The Season in Minnesota....42
Bee-keeping as an Avocation....42
Honey Dew....43
Cellars vs. Summer Stands....44
Management for Box Honey....44
The Best Shipping Crate....45
Western Illinois Convention....45
Fertile Workers....45
Putting in Queen Cells....45
How to get the best Yield of Honey....45
Bee Stings—Best Protection....46
Adaptation to our Business....46
Chips from Sweet Home....46
Apis Dorsata....46
Mignonette for Bee-Forage....47

CONVENTIONS:
North-western Ohio Report....48
Michigan Convention....49
Statistical Table....49
What to do with our Surplus Stocks....50
What shall we Wear....50
Wintering Bees....51
Creating a Demand for Honey....52

OUR LETTER BOX:
Sundry Letters....54 to 58

☞ V. 1, AMERICAN BEE JOURNAL is now out of print. "The Dzierzon Theory," which we have re-published in pamphlet form, now takes its place. It contains much that every bee-keeper ought to know, and is one of the most interesting and instructive little works ever published. Its low price (only 20 cents, post-paid,) places it within the reach of all.

Editor's Table.

☞ Newark, O., reports a case of bees swarming on Christmas day.

☞ An additional cypher made us to say at the Adrian Convention, that we knew a groceryman who had sold since September, nearly 60,000 lbs. of honey. It should have read 6,000 pounds.

☞ L. Lindsly, of Waterloo, La., says that in a poor honey year his Italians are far superior to blacks. Last season was a poor one, and his Italians got only half a crop—his blacks got none.

☞ John Bourgmeyer & Co. have made a new Comb Foundation Machine, which makes sheets 12 inches wide, and can be sold for $40. The foundation is equal to any we have seen, as to quality, and the machine is exceedingly *cheap*, at $40. Others are sold at $100, that make the same size sheets. We can supply them at manufacturer's prices.

☞ The Rev. A. Salisbury has gotten up a neat Honey Basket. It will contain 11 combs, and is made of wire and berry-box material; with 11 one-inch comb-foundation starters, it only weighs 6 oz. Of course, it is intended to be cut into sections, for retailing.—It is 4x6 inches inside, and 17 inches long. It can be made to fit any hive.—For being strong and yet light, it certainly carries off the palm. For retailing in home-markets, it will be quite valuable; and if protected in a crate, will ship as well as California frames.

The Querist.

Buffalo Co., Wis., Dec. 30, 1877.

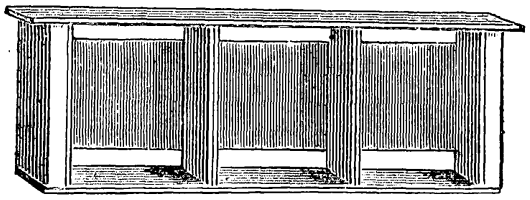
By answering the following through the BEE JOURNAL, you will much oblige a novice: Is the 8, or 10 framed Langstroth hive the best? Are honey boxes, or section frames the best for comb honey? Can either be used on the same hive?

GEORGE COWIE.

"How are the Prize Boxes and Crate used? What is best for guide? Should each section be glassed when sent to market?" J. W. JOHNSON.

[Langstroth hives are used with 8, 10, and 11 frames, according to the fancy of the apiarist. Adam Grimm, and other Wisconsin bee-keepers, preferred 8 frames. For box-honey it is, perhaps, about as good—forcing the bees up into the boxes with their stores, for want of room below. Still we should even prefer the shallow Langstroth frame for this, which is only from 5 to 6 inches in depth. The 10, and 11 frames are more generally in use.

Prize boxes are used as sections, and may be glassed or not, as the trade may demand—and are, no doubt, the best for putting up comb honey. They can be used on any sized hive, by making the case to hold them of proper size, (see cut), or by placing them,



CASE OF PRIZE BOXES FOR LANGSTROTH HIVES.

like other boxes, just over the frames, on slats, ⅜ inch thick; if any space remains over the frames, cover it with a strip of wood, just to fit.

The boxes are intended for comb foundation starters, but may be used without, as they have separators between each comb, to prevent their being built crooked, (see cut). A quilt is used just the same as over the brood chamber frames.—ED.]

Clarksville, Jan. 21, 1878.

What are the full dimentions of two-story Langstroth hives?

I have about 100 hives of bees in cellar, all doing finely. A. SNYDER.

[These are made of different sizes to suit the notions of those who use them. Ours are made thus, unless otherwise ordered:—14x18⅝ inside, and 10 inches deep; with 4 inch portico. The second story is same as the first, and this is surmounted by either a 2 or 7 inch cap, as desired. The frames are 9⅛x17⅝ inches outside.—ED.]

"Mr. Hasbrouck praises the Norway maple very highly, for the amount of honey it yields. Is it superior to the many other varieties? How does it compare with Basswood, or the Tulip tree? What other ornamental, or fruit trees would you advise to set out, to improve the prospects of the apiary? Please name in the order of their merit." E. P.

[Norway Maple, *Acer Platanoides*, is good. It is hardy and holds its leaves late, so is fine for ornament. I do not think it any better than our native maples. Our soft and silver-leaf maples are very valuable, they bloom so early and furnish plenty of honey and pollen.

Valuable trees in order: Basswood, Tulip, Soft Maple or Silver Leaf, (very beautiful, often weeping and very gaudy in autumn,) White Willow, Sugar Maple.—A. J. COOK.]

☞ Henry Alley, Wenham, Mass., has sent to our Museum one of his new bee hives. He describes it thus:

"It requires but 22 feet of lumber to make it. It has surplus capacity for 72 lbs. of comb honey, (36 two-pound boxes). The brood frames are the size of the Quinby standard, and can be lifted out of the top, or either side of the hive. It has 2 cases of section boxes; one on each side of the brood frames. The brood chamber can be contracted at pleasure. It has no honey board, nor moth traps, and is not patented. The entrance can also be contracted at will, to let only one bee pass, or enlarged to a space of 1½ inches high, by 12 inches long—affording ample ventilation in hot weather, as well as being useful in hiving a swarm."

It is a simple and cheaply-constructed hive, and also a very *neat* one. Friend Alley adds: "To any one who will send 10 new subscribers to the BEE JOURNAL Office, before April 1st, 1878, I will present one of these hives." Now, who wants to take that offer up?

☞ Being so much crowded with valuable articles, written especially for THE JOURNAL, and not wishing to defer them too long—is our only excuse for adding 12 extra pages this month.

☞ Dr. E. Parmly remarks: "I was unfortunate in the use of the word "essay" in my offer. "Best method" would have been more suitable. What is wanted is a method of raising and fertilizing queens, with the use of fewer worker-bees than the present methods—making queens cheaper, and purity of race certain."

☞ The separators Doolittle uses are just like those illustrated on this page. He uses Cases containing 2 and 3 prize boxes, on his different hives. He says, "honey cannot be stored profitably in sections, without them."

Honey Adulteration.

It will be remembered that in the BEE JOURNAL for December, we stated that a grocer of Glasgow, Scotland, had been fined £2, for selling an adulteration, labeled "Genuine American Honey."

In writing to Novice, C. O. Perrine suggested that "the names on the labels attached to the jars should have been given."

In order to ascertain, friend Dadant wrote to the Secretary of the Apiarian Society, in Glasgow, and in reply was informed that the names on the labels of the jars were Thurber & Co., of N. Y., and Bradshaw & Wait, of this city.

Novice, in *Gleanings* for January, says: "American honey is now being sent to London in such large quantities that it would not be strange at all, if counterfeits began to appear."

True; but might not the labels also be counterfeits, as well as the articles thus labeled? We are slow to believe that Thurber & Co. are adulterators. We have on our desk one of their Honey labels, which they put on their Honey for export, which reads as follows:

"One thousand dollars, in gold coin will be paid, if the honey contained in this jar is found to be impure, or in any manner adulterated."

In noticing this label, in the JOURNAL for December, we remarked: *This* has the "ring" of true metal about it! Adulteration should be everywhere frowned down.

In all candor, we would ask, is it *supposable*, even, that Thurber & Co. would deliberately put up adulterated honey and export it, and then offer a thousand dollars in gold coin to any one who would analyze it? It *may* be so; but we want more proof than we now have, to convince us that they actually did such an un-business-like transaction.

The Scotch letter adds:

"Mr. Campbell told me that before he was fined, he had sold about 60 jars per week. The produce broker had to take back the remainder. It will be sometime before the trade will be re-established.—The only way would be to send sectional supers over, showing the honey in the comb; but even that, I fancy, can be adulterated by feeding the bees grape sugar."

Friend Dadant then gives his views, as follows:

"While in St. Louis, recently, he found considerable adulterated honey, selling for 8 cts. per pound. If it was 57 per cent. glucose at 4c., and 43 per cent. honey, at 10c., it would cost only $6.58 per 100 lbs, and could be sold at a profit, at 8c. per lb., in large quantities.

"This adulteration gives dealers the opportunity to undersell honey producers, besides doubling the supply and decreasing the demand on account of its impurity. We should petition to Congress to appoint food inspectors like they have in Europe, whose duty it would be to prosecute all adulterators. Bee-keepers should unite in a vast association, with a few reliable officers who should procure samples of all the syrup, maple sugar and honey, supposed to be adulterated, and to assist in the prosecution of the vendors. Then we shall find it easy to dispose of all the honey produced."

THE APIARY.—This is the title of a work on bee culture by Alfred Neighbour, Esq., of London, England. The third edition, "greatly enlarged, revised, and remodeled," is just published, containing 350 pages. We have read it with considerable interest and find much that is interesting. The author says of the Rev. L. L. Langstroth, that he "stands undoubtedly at the present day as the foremost apiarist of the English speaking race," and quotes largely his published views on different subjects. The author acknowledges himself "largely indebted to THE AMERICAN BEE JOURNAL" and "the very able articles by which that remakably well-conducted periodical is distinguished."

The work is illustrated and elegantly printed. 100 pages are devoted to the nature, habits and management of the Honey Bee, and the balance to illustrated descriptions of Geo. Neighbour & Sons' hives and other apparatus for the apiary, which they keep for sale to English apiarists. We have ordered some of these books and shall be able to supply them at $1.50 postage paid.

☞ The *Bee-keeper's Magazine* for Jan. came to hand Jan. 12. Speaking of D. D. Palmer's visit to New York, the Editor says:

"He (D. D. Palmer) said he had examined carefully all the prominent styles of surplus honey boxes, (the so-called Betsinger included,) but said none of them would compare favorably with the style used in our Eclectic hive, which style he is going to adopt."

There must be some mistake about this, for since friend Palmer went home, we have received a letter from him and he has ordered "15,000 of the Prize Boxes, and 1,000 of the Prize Crates." Hence it is settled now that he does not intend to adopt any other than the Prize Box and Crate.

☞ By request we have gotten up a blank for a Petition to Congress to have the Postal Laws amended so as to admit of Queens being sent in the Mails, as heretofore. Anyone can have them on application at this office. Get them signed and returned to us by March 1st. We will then see that they are properly presented to Congress, and by a united effort try to have our voice heard. We ought to have 100,000 signatures before March 1st.

Migratory System of Bee-keeping.

A letter from one of our subscribers in Louisiana informs us that he intends to make a "new departure" in the management of his apiary. When, in the natural course of events, the early bloom of that locality is nearly exhausted, he intends to place one thousand colonies of bees on a barge on the Mississippi River, and by means of a small steam tug boat, follow the bloom up the river, and thus procure perpetual honey-gathering. However *new* this migratory system of bee-keeping may be for this country, in the history of the World it is *no* new thing. In proof of this, we will submit some interesting statements from an English work on apiculture.

In many countries, the removal of the hives from one pasturage to another is considered as a very important branch in the practical management of the apiary. Savary, in his "Letters on Egypt," enters into a long detail of the manner in which the inhabitants of that country transport their hives along the banks of the Nile, and says:

"The Egyptians exhibit great skill in their manner of cultivating the bee, as the flowers and the harvest are much earlier in Upper Egypt than in Lower, and the inhabitants profit by this circumstance in regard to their bees. They collect the hives of different villages on large barks, and every proprietor attaches a particular mark to his hives; when the boat is loaded, the conductors descend the river slowly, stopping at all the places where they can find pasturage for the bees. After having thus spent three months on the Nile, the hives are returned to the proprietor, and after deducting a small sum due to the boatman for having conducted his hives from one end of Egypt to the other, he finds himself on a sudden enriched with a quantity of honey and wax, which is immediately sent to the market. This species of industry procures for the Egyptians an abundance of wax and honey, and enables them to export a considerable quantity to foreign countries."

M. Maillet, in his "History of Egypt," also makes mention of this custom relative to the pasture of the bees.

It is the custom of the modern Greeks, who inhabit the coast of Asia Minor, toward the islands of Archipelago, to transport their hives by sea, in order to procure an abundance of food for their bees. A similar practice is also adopted in China; but "the celestials," of all people in the world, are the most ignorant in the management of the bee. Of its natural history, they know less than the savages of Africa; they consider themselves very wise in knowing that the bees make honey and wax, but as to any further research into their history, it is beneath the notice of such celestial beings.

A very ingenious method is practiced by the people who inhabit the banks of the Po, in regard to the transportation of their hives. They load the boats according to the manner of the Egyptians, and then transport the hives to the vicinity of the mountains of Piedmont. On their departure, a line is marked out around the boat, from which a scale is drawn, and as the bees collect the honey, the boat sinks deeper into the water; thus, by looking at the scale, the boatmen know when the bees have gathered a sufficiency of honey, and they then prepare for their return.

Alexandre de Montfort relates, that the people in the vicinity of Juliers generally convey their hives to the foot of the mountains when the wild thyme is in flower.

M. Valmont de Bomare, in his Dictionary, observes: "Great is the advantage of being in the vicinity of a navigable river, for by these means, the spring of a dry country can be united with the autumn of a fertile and umbrageous one, and thereby ample amends be made for the poverty of the country in which the apiarist may be established.

M. l'Abbe Tessier, Proutant, and others, inform us, that the proprietors of the bees in La Beauce transport their hives every year in the month of August, in carts, into the country of the Gatinois, or to the environs of the forest of Orleans, about the distance of 10 miles from their habitation.—They find heath or buckwheat in flower at a time when in La Beauce, after the gathering of the sainfoin and the vetches, no further addition can be made by the bees to their winter store.

This manner of transporting the bees is called, in the country, *leading them to pasture.* A single cart contains thirty or forty hives. They travel only during the night, and at a foot-pace, and as much as possible on sandy roads. The hives are covered with linen, and are arranged in stories; those of the upper being reversed between those of the lower story. They remain about two months in the place of their pasturage. The peasants take care of them for a very trifling salary. In this season nearly 3,000 strong hives are seen at a little village.

When the hives are to be transported, they are placed in the evening on a linen cloth, in which they are wrapped, and tied round with bands of straw, osier, or packthread. Two men can carry several hives by passing a long stick through the knot of the cloth which covers them. They are thus often packed on horses or mules. If they be placed in the common way, that is, on their bottom, they must be raised and sustained at the height of some inches, especially if the journey be of some length; for it is necessary that the bees should be able to imbibe a renovated air. The swarms which have been newly hived may remain in this state 2 or 3 days. In cold weather, the hives, full of wax, honey and bees, may be transported to any distance, by taking care only that the combs do not break one against the other; for this purpose they are supported with little sticks.

To these details of M. l'Abbe Tessier, we will add some not less interesting, extracted from the Dictionary of M. Bomare: "The

skillful economists in the Gatinois, after the crop of sainfoin, transport their hives into the plains of La Beauce, where the melilot abounds; afterward into Sologne, where the country is covered with buckwheat, which is in flower until the end of September. The practice is universal in the country, and even the humble peasant imitates the opulent proprietor in the transportation of his hives."

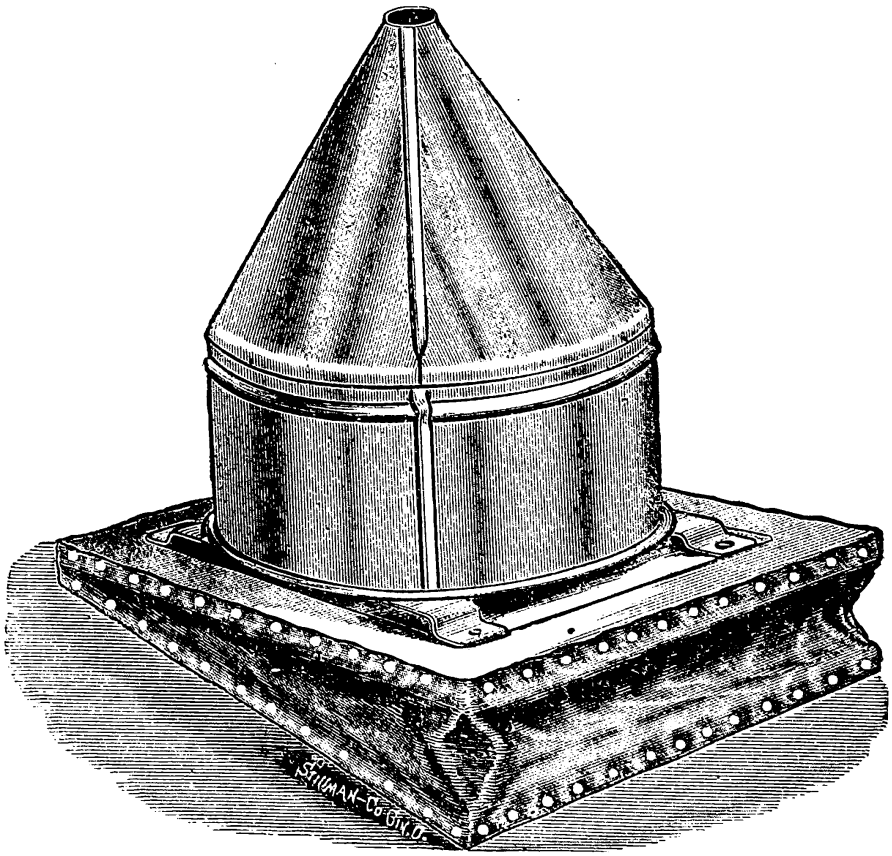
M. Bomare adds: "We are informed, by a memoir of M. Duhamel, that the profit which is extracted from the bees under the system of transportation, is very considerable. From the month of July, when the bees have swarmed, and have made an excellent harvest from the sainfoin, the whole of the honey and wax is taken from them, and the bees are put into an empty hive. The hives are then transported into a country where an abundance of flowers and mellifluous herbs are to be found. If the weather be fine, and the flowers luxuriant, the hives, which have been transported in July, are well filled by the latter end of August. They are then changed a second time, and particular care taken of the brood combs. As soon as the bees have been thus changed a second time, they are removed into a country where buckwheat abounds; and supposing the season to be favorable, the hives are so well filled that a third of their combs may be extracted."

☞ The Lakefield, Ont., *News* says "Mr. W. H. Langford chopped down a maple tree which contained the hard-earned hoardings of a colony of bees. Getting 150 lb of honey."

Bellows Bee Smokers.

Since the invention of the extractor by Hruska, no more important contribution to practical bee-culture has been made than the Bellows Smoker.

The late Mr. Quinby was the first to make such an article, and it was accorded the whole field during the life of the distinguished inventor. Though it did not prove to be so perfect that no improvements were needed, it is well known that so long as no substantial improvement was suggested by others, no bee-keeper presumed to copy it, or deprive him of the honor, or small profit which may be derived from its manufacture.

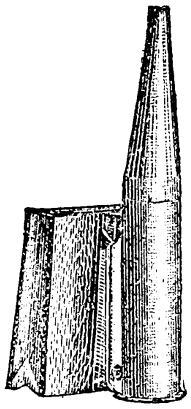


NOVICE'S SMOKER.

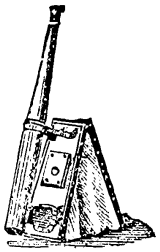
Mr. T. F. Bingham was the next in the field with a smoker. His is *not* a copy of the Quinby; it is original in both construction and design. Mr. Bingham has filed a caveat preparatory to obtaining a patent to protect his rights in it as its inventor. Notwithstanding this A. J. King has produced an imitation of it, and A. I. Root has copied many of its important features in a low-priced imitation of it.

As an independent JOURNAL, having no "axe to grind" nor "hobby to serve," we would ask, in all candor, is this doing justice to the bee-keeping fraternity in general, leaving the rights of the inventors out of the question entirely? Is it not the encouragement that we as a "class" hold out to inventors, that is lying at the root of *all* improvements? Should we not encourage and sustain the *real* inventor of a principle instead of the mere copyist who may manufacture a cheap imitation? It really appears to us that Quinby and Bingham have some rights that should be respected.

In saying that the Bingham Smoker is original both in construction and design, we mean that it is so more especially in its internal arrangements.



BINGHAM'S SMOKER.



QUINBY'S SMOKER.

All can see that the upright bellows and tube somewhat resemble the one invented by the late Mr. Quinby, but in no other respect, we believe, are they similar.

But we started to notice the new smoker made by Novice, a cut of which may be seen in connection with this article. All will see at a glance, its form and shape; the bellows being exactly the same as the Bingham smoker. The short and thick tube is not as convenient, we think, as the tube of the latter. The fire-pot being fastened to the bellows by screws, the heads of which are exposed to the fire, the heat will extend to their tips and cause them to loosen from the wood of the bellows, and soon there will be a division of parts. Having to lay it down on the flat of the bellows is also an objection; it cannot be as readily picked up, and will not be kept in such good order as one that is put down on the edges of the bellows and the end of the tube. Having to suck the air in at the same place where it is discharged, (there being no valve) the volume and power are lessened, and there is danger of sucking the ashes and fire into the bellows from the fire box.

Seeing this difficulty, Novice has attached a little slide to operate as a cut-off between the fire-box and the bellows; but the fire-box being so large at the base, and its being so near the bellows this cut-off will not be of much service.

It is perfectly *natural* to hold the bellows by the left hand in a horizontal position, ready to puff the smoke at pleasure, leaving the right hand free to manipulate—but with Novice's smoker this *natural* position and operation is out of the question.

Novice has named the article "The Smoker I prefer,"—but for these and many other reasons we say—candidly but kindly—It is *not* the smoker *we* prefer.

He also intimates that it can be used to for subduing stubborn children, but we do not see in what way. It can't be possible that he would be so cruel as to blow the smoke into their eyes! We are sorry he has not given the *modus operandi*. It would have been such a relief to tender-hearted, loving parents.

The "King" imitations of the Quinby and Bingham smokers are of similar construction to the originals, but very inferior to them in many particulars.

Is it not "mete and right and our bounden duty" to render "honor to whom honor is due," and deal out justice alike to all? It is with the kindest feelings to *all* that we criticise—and did we not deem it a *duty* to our readers we should have written little or nothing on the subject.

LATER.

The foregoing article has been crowded out several months, by long Convention reports.

Now we have to announce that the Bingham Smoker has been patented.

This step was taken because of the "King" and "Novice" imitations of

it, and was done solely to protect the rights of the inventor. We should have preferred that this invention might *not* have been covered by a patent—but the unwise course pursued by A. I. Root and A. J. King, in copying or manufacturing every desirable article without so much as saying to the real inventors, "By your leave," must be held responsible for such action.

Those who *use* an infringment of a patented article, are liable to the law as well as the manufacturer and the vendor of such articles. All should therefore be careful, and not "burn their fingers" by *purchasing* or *using* an infringment. Better to throw them into the fire than get into trouble about such a small matter.

Whatever may be thought or said of patents, and the rights of inventors, we are compelled to say, that property in invention and copyright is recognized in the laws of every civilized nation. Mr. Bingham is now the only legal manufacturer of the "direct draft" improvement in Smokers, and such a valuable apparatus for the easy and safe management of bees may be justly regarded as a land-mark in apicultural progress.

☞ We regret to learn that Dr. W. B. Rush, of New Orleans, La., met with a serious accident, in a sugar mill, on Dec. 8., which entailed over a month of intense suffering. He started to visit his father in Penn., on the 25th of Dec., but was unable to proceed further than Granville, O. He is slowly recovering, and expects to return home, as soon as possible to attend to his apiary.

THE A. B. C. of BEE CULTURE is the title of a pamphlet of 52 pages by A. I. Root, of Medina, O. Price 25 cents. This is a "Cyclopedia of everything pertaining to the care of the Honey Bee," so far as the three first letters of the alphabet will carry it. We believe it to be Novice's intention to "continue to the end"—and when he arrives at Z, to be able to verify the "everything" in the title. It is a very useful work and has already exhausted the first edition. It can be obtained at this office.

☞ The manner in which THE AMERICAN BEE JOURNAL begins its fifteenth year of publication is exceedingly gratifying. Scores of letters, by every mail, come laden with words of congratulation and substantial evidences of appreciation, in the shape of subscriptions that are *new* as well as *renewed*. It seems to be well understood that THE AMERICAN BEE JOURNAL is devoting its energies to the interests of producers, and to this end it provides in its monthly "budget" the best and most varied information on all subjects of interest to the Apiarist. It is gratifying to us to notice that those who have for years been prominent apiarists are still its friends and constant readers, and often speak of its sterling worth in almost flattering terms. To all, we wish to extend our thanks for both kind words and deeds.

☞ J. H. Shimer, of Hillsboro, Ills., reports that he had a swarm come out Friday before Christmas, and that it appears to be in good shape. For a northern climate such things are indeed a rare occurrence—but the mild weather of December in this latitude was just like spring.

☞ In California, it is reported that they are having the "early rain," with a good prospect that "the latter rain" will not be withheld. But the drouth of last year killed more than one-third of all the bees there. Half a crop of honey is all that California bee-men hope for, under the circumstances, and that will not more than supply their home demand—last year's failure having cleaned out the home markets.

MORE TINKERING.—A recent "ruling" of the Postal Department has excluded knives, scissors, &c., from the mails, and hence we can no longer send "Honey Knives" or "Scissors for clipping Queen's wings" by mail. They can be sent with other things by express. We shall keep them as usual.

IN many provinces of France and Switzerland St. Valentine's day is regarded as the patron-day of bee-culturists. It is celebrated by banquets.

Death of Dr. Jared P. Kirtland.

Another of the "shining lights" of the last decade has passed away. One by one the pioneers give place to their successors in apicultural science, who though none the less enthusiastic than "the fathers," in scientific explorations and energy are "not a whit behind" them.

The following speaks for itself:

EDITOR JOURNAL:—The death of this eminent man needs a notice in the columns of THE BEE JOURNAL. We find the following resolutions passed, at a recent meeting of the Farmers' Club, of the American Institute:

"*Resolved*, that we have heard, with profound regret, of the death of Dr. Jared P. Kirtland, of Cleveland, O. Our eminent naturalist, especially distinguished for his investigations in the orchard, vineyard and garden, whose contributions to science have been recognized in both this country and Europe, and who was a noble man in all the relations of life."

We will add to the above list—the apiary. For more than a half century, Mr. Kirtland has taken a lively interest in bees, keeping them more for pleasure than profit; and while following his professien, he always found time to "doctor" his bees, always quick to note improvements and adopt them. He quickly recognized the frame hive and its merits, and the Italian bee gave him great pleasure. N. CAMERON.

Lawrence, Kansas.

☞ Friend Oldt has sent us a model of his improved hiving apparatus. He is very fair in his terms. He now makes the following offer:

"On the receipt of $1.50, I will send by mail free, to any address, a model (made of black walnut) of my Hiving Apparatus.—Examine it; if it does not come up to your expectation, return it in good order, inside of two months, and your money will be returned."

This will give those who wish to test the apparatus before buying, a chance to do so.

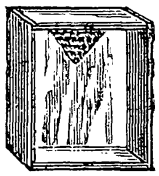
CHINESE MUSTARD AS A HONEY PLANT.—Perhaps one of the very best honey producing plants is tall Chinese mustard. It remains in blossom a very long time, seems to yield honey continuously, is equally vigorous to resist drought, or wet, and flourishes in all soils. It may be sowed any time from May 1st to middle of June—the earlier the better. It will seed itself—its greatest drawback; yet, it is far less troublesome as a weed than common mustard.—It should be planted in drills, a foot apart, for ease of cultivation. An ounce will plant a space of one rod by four.

We can only fill a few orders for this seed. Price, per ounce, 20c.; quarter pound, 75c., postpaid.

Marketing Honey.

This department will be devoted to items of interest concerning Packing, Selling and Shipping Honey and Beeswax.

"The Betsinger Prize Box."



Friend Betsinger, being annoyed because the box containing the honey to which was awarded the Gold Medal, in New York, has been called the Doolittle box, desires us to publish the following:

"I desire you to call it the Betsinger Prize Box, in large print, above the comments I desire you to make, and to inform the many readers of the AMERICAN BEE JOURNAL that I am the inventor of said box, and wherever it is mentioned, my name may appear before it, just as the first frame hive is called the Langstroth Hive.

"This box is held in cases, containing two or more boxes, with wood or tin separators. It is not patented, and is free to all, to make and use, providing it is called by my name. Glass is 5x6 in., one-sixteenth less in width—each glass is fastened by two tin points. N. N. BETSINGER."

Of course THE AMERICAN BEE JOURNAL wants that every man should have his due —"Honor to whom honor," etc., and it would not for the world, even, countenance a robbery of that honor. So we will here give a few facts from history.

In the *Family, Farm and Garden*, a work published by E. G. Storke, of Auburn, N. Y., in 1860, on pages 305 to 307, is an illustrated description of section boxes, in frames, without separators. Used on both sides of the brood chamber as well as on top. This arrangement was patented by E. W. Phelps, April 6, 1852 and Nov. 9, 1858.

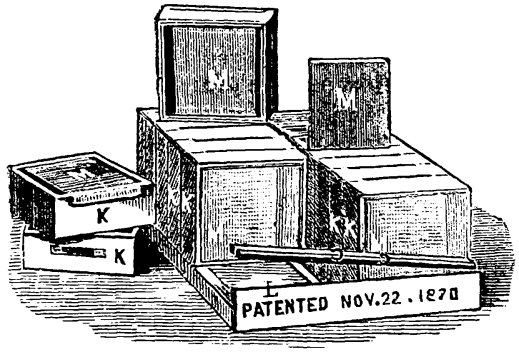
In answer to the query in our last JOURNAL on page 5, Messrs. Barker & Dicer say:

"We made our first section box (as we now use them) in the spring of 1872. Our patent was granted Jan. 7, 1873, and covers all sectional boxes made with two wide and two narrow pieces, so arranged that they form openings between each section. We made sectional boxes several years before that, but considered them imperfect till we invented those covered by our patent in 1873."

We have the original patent papers on our desk and find it precisely as stated by friends Barker & Dicer.

In a "Circular and Bee-keepers' Guide," issued by Geo. T. Wheeler, Mexico N. Y.,

the inventor of the "Farmers' Friend Bee Hive," patented Nov. 22, 1870, we find a similar arrangement of honey boxes, illustrated and described. These boxes are 5x6, and identical with the one described by the cut at the head of this article, and held in a frame, as seen by the following cut:



G. T. WHEELER'S SECTIONAL BOXES.

Friend Wheeler remarks, that his "arrangement of small honey boxes is the result of many years' experimenting, to combine the advantages of both large and small boxes." On page 8, of this circular, we find a testimonial from G. M. Doolittle, which says he purchased a case of 14 boxes, in July, 1872, of Mr. Wheeler, and therein he ventured the prophecy that they would "come into general use."

Friend Wheeler says he does not claim to be the inventor of section boxes, but he does claim to be the first to combine section or one-comb boxes and tin separators in a practical way, to secure the combs being built true, so that they can be marketed.—For this arrangement, a patent was granted him, Nov. 22, 1870. He commenced his experiments with wood, paper and tin for separators, in 1867.

Friend Wheeler says that all are free to make and use these boxes—all he wants is "the credit placed where it belongs."

It seems therefore to be certain that friend Betsinger has company in his claim to be the inventor of sectional boxes. We are glad that such boxes were invented and would accord *all* honor to every one of the inventors. But as friend Betsinger commenced bee-keeping (as we see by back volumes of the A. B. J.) in 1868, he is anti-dated many years by E. W. Phelps, whose patent on sectional boxes is dated in 1852.

To accommodate all, we should call this Box: "The Phelps-Wheeler-Betsinger-Barker & Dicer Sectional Box." But, for short, we will call it THE PRIZE BOX—and that will accomodate all.

As improvements are in order, and as recently, some consumers are manifesting disapproval of there being so much glass to pay for as honey—let us suggest that the crate be glassed, instead of the boxes. It will only take two pieces of glass, 6x16½ to glass each crate, instead ot 24 pieces, 5x6 inches, to glass the boxes. Prize Crates, ready to nail, are made both ways, either to admit the glass in the crate, or in the boxes as desired. So in ordering, please say which kind are wanted.

H. A. Anderson, of Jefferson Co., Wis., says: "A convenient crate and a safe one too, may be made in the usual way, with wire springs for the bottom, and at a small cost. One double spring in the shape of an S on each end of the box is enough."

☞ Friend Muth suggests that but few understand how to put their honey in the most marketable shape, and adds: "The best I obtained during the past season was from friend Hetherington, of Michigan.—Our California friends understand how to put it up for sale—all but their frames."—True; but apiarists are now getting awake to their own interest enough to learn "how to do it." The adoption, quite generally, of the Prize Box and Crate will help the matter vastly.

Henry Co., Iowa, Jan. 5, 1878.

"Please inform me in THE JOURNAL how much Hoge's Carrier costs and what kind of boxes can be shipped in it?"

H. M. NOBLE.

[Hoge's Honey Carrier is made of different sizes, to accomodate the kind of boxes or crate used; but the regular size for a dozen Prize Boxes in the Prize Crate, costs, with an empty Crate and 12 empty 2lb boxes, $2. We can fill orders for it.—ED.]

GLUCOSE is certainly not a wholesome article; and it is used for adulteration only, because it is the *cheapest* sweet.—Candy makers, confectioners, brewers, whisky compounders, and others, use it in abundance, though none will admit the fact. Some time ago, an agent held up a bottle of very clear glucose between his thumb and forefinger, and said to me: "If you are a manufacturer of maple syrup, or a dealer in honey, you will have to use this, and it is just as pure as your honey." The German government put a heavy fine on the use of glucose in the brewing business, as it is injurious to health. I remember, also, to have read in one of our German bee papers, that a bee-keeper ruined a large apiary by feeding glucose, and warned his friends of the ruinous effects of glucose on the life of bees. C. F. MUTH.

The Gold Medal Honey.

In the Report of the National Convention, E. D. Clark, of Randallsville, N. Y., is made to say "that he had 300 colonies of bees, but not one Italian." He wishes this corrected. He has but one hundred, (75 being Italians and 25 blacks). At that time it appeared to the Secretary that he was talking in favor of the blacks, and ended his remarks by saying he wanted to know which race of bees had gathered the honey that obtained the Gold Medal.

This question N. N. Betsinger answered promptly by saying "It was gathered by the blacks."

As this would naturally lead to the belief that G. M. Doolittle had black bees, he stated in the AMERICAN BEE JOURNAL for December, 1877, on page 423, that he "had not had a colony of black bees for five years."

It now appears that friend Betsinger's remark was based upon the idea that one of the crates on exhibition as friend Doolittle's, was not of his production, but that of one of his neighbors, which was shipped to New York with his crop. This, Mr. Betsinger claimes, he discovered by a particular mark on the crate.

One of the crates of honey, that Mr. Doolittle prepared and sent to New York for exhibition, was stolen from the cars in transit; and by his request, Messrs Thurber & Co. selected another from the lot they purchased of him and placed on exhibition in its place. As Mr. Doolittle was not at the Convention, and was not sure that a mistake might not have been made in selecting a new crate, he expressed his willingness to have the Judges re-consider the award. This they have done, and we here give the result of the

RE-CONSIDERATION OF THE JUDGES.

We, the judges, who awarded the Thurber Gold Medal to G. M. Doolittle, Oct. 17, 1877, being requested to review our decision, make the following statements:

1. We are informed that one of the cases of honey prepared for competition, by Mr. Doolittle, for this medal, was stolen from the cars in *transit*, and paid for by the Railroad company. The other case was a "fancy" one, gotten up expressly for exhibition by Mr. Doolittle.

2. At Mr. D's. request, H. K. & F. B. Thurber & Co. selected a crate from the lot sold to them to supply this deficiency,

3. As Mr. D. bought some of the honey sold to Messrs. Thurber & Co., of his neighbors, to ship with his own, (as is often done, to make "bulk" or car-load). It is claimed that the case of honey, selected by them, was not raised by Mr. Doolittle, but one of the lot he purchased.

4. The Judges, in considering the award for "the best honey," were not confined to any one crate of an exhibit—but considered the boxes of honey put into the fancy crate by Mr. D. as excelling all others exhibited.

5. The Judges, therefore, after a careful consideration of the matter, hereby confirm their previous decision of award.

WM. FLETCHER,
THOMAS G. NEWMAN,
A. J. KING,
} Judges.

Of course, there should be *no fceling* on the matter. *All* could not get the Medal.—*Some* must be disappointed!

As one of the Judges, we were in favor of awarding the Medal to another exhibit; but we have, long since, learned to acquiesce in the decision of the majority—and therefore, heartily join in the above decision of the Judges.

☞ English merchants, last year, ordered considerable California honey in Harbison frames. This year, they ordered single-comb glassed boxes; but many, not filled out, were broken down on the way, and they have now shut down on such orders, because they cannot stand the "breakage." A good and cheap carrier is the remedy—now let Yankee ingenuity go to work.

☞ We keep Prize Boxes and Crates in stock at this office, and can supply orders, without delay, lower than the lumber for a small quantity can be bought for, in the country. Read prices on the second page of the cover.

☞ In shipping box-honey, F. C. Hazen advises the placing of a sheet of paper between, and on top of the boxes—so that if any were injured in transit, the honey may not drip over all the rest.

☞ Adulteration is the order of the day. Honey is, no doubt, occasionally adulterated—but for systematic and presistent adulteration, let golden and silver drips, and fancy syrups generally be awarded the medal. Let any one who desires the proof of this, just take a tablespoonful of any of these syrups, and stir them into an equal quantity of liquid Japan tea, and they will be surprised to see how soon the light amber tea turns as black as ink! They are manufactured from corn starch, treated with sulphuric acid, and sweetened with common molasses.

Boston.

The settled aversion of Bostonians to all kinds of dark honey, has long been known to those producers and dealers who have marketed honey there. While they willingly pay the highest prices for a fancy white article, they cannot be induced to buy, taste, or handle the dark grades. We know a producer, who took 8000 pounds of honey to that market, this year. 5000 was light and 3000 dark. He sold out the light to first-class advantage; the dark dragged. He intrusted its sale to a commission house, and went home. After several months, he learned that no progress was being made with its sale, and the lot was transferred to another commission house, in Boston; and they had no luck in disposing of it when it was sent to New York, and at forced sale, brought from 8 to 10 cts. per pound. We advise our readers to never send dark honey to Boston.

Mr. David Geer, a regular "down easter," and the pioneer honey peddler of the United States, is located there. He is about seventy years of age, and is reputed to be worth over $100.000. He has made his entire fortune by peddling honey, all through the New England states, not unfrequently having 8 to 10 wagons on the road.

The Walker Brothers, of Green Point, L. I.; J. H. Dunham, and P. H. Lislie, of Brooklyn; and the Raymond boys, of Summerville, Mass. (now staid and reliable dealers) all worked for Mr. Geer, and as they developed, they "folded their tents, like the Arabs, and silently stole away."

Mr. S. J. Geer, of Medford, Mass., also a wealthy and reliable dealer, is a brother of Mr. David Geer. A remarkable peculiarity of these two brothers and their *wives* is, they are all so hard of hearing that they can hardly hear each other talk.

Honey is selling, in Boston, at from 15 to 20 cts. for light, and 8 to 10 cts. for dark; no demand for "strained."

☞ Valentine & Co., the celebrated varnish men, of N. Y., refine large quantities of American beeswax, which they sell through the Liverpool branch of their extensive establishment. This firm handles from 5,000 to 6,000 pounds of beeswax per month, and their brands have a world-wide reputation for purity.

☞ A patent has recently been issued to M. Laflin, of Chicago, for a mixture of composition of paraffine and resin, for lining, or coating barrels and firkins.

☞ While we are shipping honey to England, that country is selling it to her colonies and to other countries. If England can afford to buy of us for her own consumption, we certainly ought to be able to compete with her for the trade which she is monopolizing from other countries. The Paris Exposition will last six months; giving an excellent opportunity, as well as ample time for all countries to become acquainted with the superior quality of American honey. As yet, we have heard of but one exhibitor of honey from the U. S., (H. K. & F. B. Thurber & Co.), and there can be little doubt but that it will increase their trade four-fold, and open up a valuable and permanent business with many new markets.

☞ In Peter's Museum, N. Y., at the Academy of Sciences, is the effigy of Peter, the Great, in *beeswax*, habited in a court dress, that was worn by him, and shoes made by his own hands. The wig is from his own, dark hair, clipped after death.—His eyes were black and his stature about six feet, three inches, according to a rod shown, which is said to have been exactly his height.

☞ A medal, a leather one, would be appropriate—should be offered for honey stored in the most *unmarketable* shape, and crated in the most *inconvenient* manner, to be exhibited by dealers, at the next National Convention—each exhibit to be plainly labeled with producer's name and address. It might have a good effect.

☞ W. H. Bowdlear, of Milk St., Boston, a beeswax refiner, recently failed; liabilities, $26.000; assets, $5.000. Among other creditors, were Thayer & Judd, manufacturers of paraffine wax.

☞ It is estimated that the people of the United States consume one dollar's worth of sugar each, yearly.

LACK of success in the culture of bees, comes more from ignorance, than from any other cause."—*Hamet.*

"The Sweet By and By," when the honey is passed two or three times to the boarders on the opposite side of the table before *you* can get it.

The bees cell the honey, and the dealers sell it.

Southern Notes,

GLEANED BY

W. J. ANDREWS, - COLUMBIA, TENN.

For the American Bee Journal.

Notes from Georgia.

FRIEND ANDREWS:—The weather is warm, and bees are carrying in pollen; I examined several colonies and found brood in all stages. Seeing bees come and go from the hive, with that familiar hum, we are lead to judge that they think spring has come in good earnest.

ITALIANS VS. BLACK BEES.

The Italians are carrying in pollen quite freely, when scarcely a black bee is seen with a pellet on his legs. "Well, what of it?" Why, in the spring when honey comes, it will result in at least two weeks time in favor of Italians.

HONEY MARKET.

We are pleased to see that the honey market keeps in advance of what many expected; this, perhaps, may be attributed largely to Messrs. Thurber & Co., who have taken hold of this "luxury," and are not only selling to people of moderate means, thereby placing it beside butter, cheese, and other delicacies, but are shipping it to all parts of the world, by the ton. With these facts in view, it will stimulate bee-keepers of this country to apply themselves to the work, and see that the little busy bees are well cared for.

Bee-keeping is destined to develop a source of untold wealth to this country, and we hope the time will come when they will be kept in sufficient nembers to gather the millions of tons of honey annually wasted.

ITALIAN BEES.

Very much has been said, not only by American bee-keepers, but by the Germans, as to what constitutes the true markings and color of the Italian honey bee. Some of these opinions need pruning pretty closely, as they vary about as much as the weather.

A. F. MOON.

☞ In my article on Grape Sugar, instead of "put the water in a copper kettle, *on* a wooden tank," etc., read "*or* a wooden tank." This makes a great difference.—As soon as I get a good chance to work at it, I intend to make up a batch of glucose, and try it.

I have ordered honey boxes for 1,000 lbs. of honey, and 200 section frames, or cases, for next season, so you see I mean business. I will double the number of colonies I have, and raise everything for box honey, and will raise a few queens to Italianize in time.

S. C. DODGE.

[We wish you abundant success, friend Dodge. If you will raise a crop of box honey, you will have no difficulty in finding a ready market with friend Muth, at Cincinnatti. We are now having about 200 hives, and a large number of section boxes made up. We expect to raise box honey exclusively, the coming season; and to be sure that we would have it in suitable market shape, we sent to friend Muth for a sample of his sections. He kindly sent us one of his two-story Langstroth hives, with full complement of frames, sections, etc., making us a present of the same, and *even* prepaid freight. As a matter of course, he has our warmest thanks.—W. J. A.]

For the American Bee Journal.

Transferring Bees.

Our method of transferring bees from the the box hive to that of the movable frame is both simple and easy; we have practiced it successfully for several years.

Every bee-keeper should have in his apiary a pan made of sheet-iron, 4 inches deep, 4 inches wide and from 16 to 20 inches long; the length of the pan should correspond with the length of the frame used.—The pan should have rings in each end for handling; the cost of such a pan is 25 cts., and with care, it will last a lifetime.

WAX FOR FASTENING THE COMBS

is made as follows: To 1 lb. of common English resin, add ⅛ of a pound of beeswax; be sure to get the preparation as above described; if too much wax is used, the weight of honey, together with the heat of the bees will cause it to drop down.

When the wax is prepared as above, neither bees nor moth will effect it. This preparation we use for comb foundation, and never knew one to become loose.

Melt the resin and wax in the pan, over a slow fire; be sure that it does not get too hot, or it will melt the combs when dipped into it; it just needs melting. Prepare a table, or a large box with tight cover, to put the bees upon while transferring; have a wide board or plank, to lay the combs upon when taken from the old hive. You should have a bee smoker, but if you have none, make a good roll of cotton rags, and puff a little smoke in the entrance of the hive you wish to transfer. Raise up the edge of the hive, and smoke until the bees buzz quite lively; this is a sign of their surrender.—The time to conquer them generally takes less than a minute; bees rich in stores take a little more smoke than a swarm with but little honey. As soon as the bees are under control, take the hive to the table and turn it bottom upwards; with a saw, or long knife loosen the combs on two sides of the old hive, saw off the sticks, if any—leaving the combs standing in the old hive, with the ends to your work; this will give you a chance to blow a little smoke on them occasionly, causing them to retreat. Take off two sides of the hive, by cutting the nails with an old chisel; if a chisel is not handy, split them off with an ax, leaving two sides standing. The bees will soon cluster upon the outside. Should any remain on the combs, blow a little more smoke on them. The operator wants a turkey or goose-quil, to brush what few bees stick to the combs; with a sharp knife commence on one side, cut the combs as close to the hive as possible. As fast as you cut out the comb, brush off adhering

bees, and carefully lay them on the board prepared for them; remove all the combs from the old hive as soon as possible, as robber bees are apt to wish a share in the feast. It is well to have a table-spread, to keep the combs covered up. The robbers often trouble so much as to make it necessary to take the bees into a building until the combs are in a new hive. Having cut out all the combs and laid on a board, take a frame from the hive you are putting them in, and carefully lay it on the comb and cut to fit the frame. Keep it the same side up, as in the old hive, if convenient; if not, no harm. Go through with all the combs, fitting them to the new frame. Save every piece and fasten into the frame. Soon as all the combs are fitted to the frames, have wax ready, (not too hot), gently dip the edges of the combs into the wax; (it must be done quickly, as it cools so soon). Place combs in the new hive as fast as fitted.—Gently place the bees at the entrance of the new hive, which they will enter at once; when all are in, contract the entrance for a few hours, when the bees have disgorged their honey, they will protect their home.—It is well to place the hive where the old one stood, while you are transferring; this will keep many bees there as they return from the fields, while the transferring is being done. This operation is plain and simple; we can transfer 2 swarms sooner than we could write how to do it.

At the Georgia State Fair for 1874, a $10 premium was offered for the best method and quickest time for transferring a colony. We transferred them, putting in all the comb, bees and honey in 21 minutes. We had no competition. In 1875, we made the transfer in 19 minutes. In 1876, we did it in 16 minutes. The committee pronounced it a scientific job, one of them saying that I was entitled to the "champion belt of the world," and would be for generations to come. A similar statement was made by a bee-keeper from Milan, Italy.

Rome, Ga. A. F. MOON.

For the American Bee Journal.

Two Queens in One Hive.

FRIEND ANDREWS:—I have just had a few stings in each hand and feel better! I had some curiosity to see the inside of a hive that seemed to be busy about something. They are bringing in pollen from *pyrus Japonica* and *Forsythia*. The latter are blooming quite freely. Isn't it wonderful, at this date? I opened the hive and found 4 combs with brood. Two had sealed brood circles about 6 inches in diameter. Finding the queen, she appeared *small* and *barren*. This surprised me very much, for there was too much brood for such a mother, but upon further examination, I found another fine, large, light colored, young queen. The old queen is dark, and mated with a black drone. Now, what bothers me is, where did the other one come from? The old queen can't be her mother. I'll just wait and see what kind of workers hatch out. Here is another case of two queens in one hive. The old one has her wings clipped. I'll clip the other one's wings too, and see what will become of them; especially in swarming time.

S. C. DODGE.

[I have a large number of the *pyrus Japonica* plants in my yard. Mine too was full of buds, nearly ready to burst open, but a killing freeze came and they went "where the woodbine twineth." Bees in this locality were flying every day, up to that date.—I observed that mine were busy carrying in something, not pollen. A confectionery pedler, with a wagon, was manufacturing candy in one of our streets, and my bees were getting a "free lunch" at his stand.—One day, they attacked him in such force that he surrendered to them, and they took *all*. Quite a number of our citizens collected about his wagon to witness their "bold robbery," and many comments were made about their golden beauty. Some advised resistance and a general slaughter, but the gentleman positively declined to kill a single one of them.

Two queens in one hive occurs quite frequently. A number of such instances are reported in the BEE JOURNAL. I had 2 colonies last season, each containing two queens. From one, I removed the young queen as soon as discovered. In the other, I let them both remain for about 6 weeks, then removed the old one, and gave her to a friend. In both these instances, I think they were preparing for the demise of the old queens, one had her wings clipped, and the other a leg. W. J. A.]

Foreign Notes,

GLEANED BY FRANK BENTON.

Translated from "Bienenfreund" by F. Benton.

The large Bee, Apis dorsata, of Java.

BY EDWARD CORI, BRUEX, BOHEMIA.

(*Continued from Dec. number.*)

Were I still young and in possession of the necessary time and means. I would, in my inclination toward, and love for bee-culture, regard the importation of this race of bees as a noble life-work, and with great pleasure would undertake to penetrate the primitive forests of Java, to seek out and capture a colony of these bees, then increase them there, and finally bring them alive to Europe. With the greatest confidence in its success, I would undertake and proceed to execute this work.

When intelligence and practical qualifications for an undertaking, and an earnest will, with great perseverence in its execution are united, it rarely happens that a reasonable aim desired, cannot, with the help of God, be reached.

By means of rope ladders I would surely be able to reach the lodging of *Apis dorsata*, even though the same be in the high trees of the primitive forest.

Against the ugly sting of this bee I would protect myself and my Javanese

assistants, by means of a good mask for the head, and by smearing the whole body and impregnating the clothing with strong-smelling petroleum; for the highly offensive odor causes every bee to avoid stinging anything that has been moistened with it.

I would overcome the colony by means of strongly narcotic smoke, and, if necessary, paralyzing means, whose gasses could be led from tin receptacles into the dwelling of the bees through rubber tubes. The removal of the queen with a portion of the colony could be accomplished in accordance with the local conditions by practical work.

The locating of the precious colony, through the employment of a queen-cage for confining the queen periodically, so as to retain it in a suitable hive, as well as the rearing of young queens, would be with me, as with every practical apiarist, no difficult task, because *Apis dorsata* is not inclined to wander.

Assistants in this undertaking cannot but be obtained among the natives of Java; the attractions of money, of good words, and of careful guidance would not fail to produce a willingness to serve, particularly on the part of such poor islanders. Neither would the assistance and support of the Dutch colonial government be withheld, whose liberality in the advancement of undertakings for the benefit of natural science and natural economy is well known.

Even the transportation of the bees to Europe would turn out as desired, notwithstanding the extremely warm winds on the passage through the Gulf of Aden, the entrance from the Indian ocean to the Red sea. I would take only weak colonies with me to Europe—those consisting of but a few hundred workers. The transport-hives I would construct of light strips of wood, with wooden bottoms and covers, the latter removable, and containing numerous openings for ventilation. The covers could be taken off during the passage through Aden, and the hives placed in the free air in the shade of some object on shipboard. The bees, in their hives of light, uncovered strips—quite as though they were in the open air, would be enabled to bear the great heat even better than the passengers, and would certainly stand the journey and arrive alive. An occasional careful sprinkling with water would refresh them. In the transport-hives I would place neither empty combs nor those filled with honey, but only a few unplaned boards perpendicularly, on which the bees could hold fast. I would supply the bees with food, as well as water, by placing at the top of the hives receptacles with thick linen bottoms, through which they could suck honey or water.

I confidently believe that in this manner I would come into possesson of this *Apis dorsata*, so inestimable in its worth to bee-culture, and would be able to import it to Europe.

To be sure, these are only ideas which I present here—a kind of a dream of a hoary-headed bee-keeper, yet, I like the liberty of expressing my views here, because I hope they may sometime be of use to our bee-culture.

In case some worthy reader of this valuable JOURNAL would put into the young, true mind of a son, who is already practically informed in bee-matters, and who possesses a preference for the calling, these, —my ideas, it might chance that the young bee-keeper having, in his life occupation, reached the island of Java and passed some time there, remembering *Apis dorsata* and my ideas, would undertake and accomplish the project of capturing a colony of this race and bringing, or sending it to Europe. His name would forever shine with honor upon the eternal page of history—that of apistic and national economy, near those of our great masters in bee-culture, and, should great governments honor him with large premiums for his services, it would be but the reward which such a great and useful work would merit.

IN a recent number of *Die Bienen-Zeitung*, the great German bee-master, Dr. Dzierzon, describes the mating of a drone and a queen; which occurrence he was fortunate enough to be able to observe on the second day of July last. During more than 50 years of close observation—particularly of the movements of young queens, such an opportunity, he says, has not before presented itself to him.

THE Dutch government is about to send Italian bees to the Island of Java. An agent of the minister of the Colonies has ordered, of Dathe, 8 stocks, the necessary implements, and a practical apiculturist.—Dr. Dzierzon is to furnish 8 colonies also.—S. H. Rykens, son of the director of the seminary in Groningen, will conduct the enterprise, and will be installed as a teacher of bee-culture, in Java, with a salary of 5000 marks ($1.825), which, later, is to be increased to 10.000 marks.

HERR AD HAUFFE, who obtained Italian bees of Dr. Dzierzon, in 1852, and who was the first to cultivate that race in Saxony, recently gave his experience regarding the Cyprian bees. He claims that, as is the case with Italian hybrids, it is only the hybrid Cyprians that are more inclined to sting than the common bees or the Italians; that the pure Cyprians are very docile. All know how many times novices in bee-culture, who could not tell a hybrid Italian stock from a pure one, or who did not know how to get Italians off the combs without making them angry, have affirmed that the latter were crosser and more inclined to sting than common bees. It is quite well also, to consider that the Cyprians may possess as marked peculiarities as the Italians or common bees, and in view of the fact that they will likely be among us another season, it is best to know all that is said about them across the water.

"THE BAG-PIPE BEE.—(*Apis amalthea.*) This is the name given to a race of bees inhabiting Havana, Cayenne, Surinam, etc., and which must produce the sweetest, best-tasting honey. The Bag-pipe bee has the size of our ordinary house-fly, and is quite black, with brown antennæ and feet. These bees build their nests in the form of a bag-pipe, in the tops of trees. Their cells are unusually large and contain much honey, which however soon ferments and changes into a strong drink of which the Indians are very fond, and which must have a very agreeable taste."—*Bienen-Zuechter.*

Correspondence.

For the American Bee Journal.

Various Matters.

DEAR EDITOR:—THE AMERICAN BEE JOURNAL is still improving, and is a very welcome visitor. In worth, it is fully equal to those volumes edited by Mr. Samuel Wagner. Many single numbers alone are worth the price of a year's subscription.

HONEY MARKET.

The potent skill and experience of older bee-men have overcome all obsticles in the business, and made it a sure one; that is, practically so, except one enemy that we still have to conquer; and when that is conquered, all others (such as wintering, foul brood, bad seasons, etc.), will fall into insignificance. This enemy is a "*Glutted Market.*" I have never had it to contend with until this last season, from the fact that we have had, during several years, a series of bad seasons, and I had run my bees for queen raising, mostly, and was almost the only one who had honey for sale in this section, so I had the market all to myself. I had come down by degrees, year by year, from 37½ cts. to 20 cts., and last season had to come down to 16⅔ cts. retail, and 12½ cts. by the barrel; and finally to 10 cts. by the barrel, for extracted honey. I still retail my comb honey at 20 cts. I can now appreciate the complaint of other bee-men, in the want of a market for their honey. I would not have had such trouble to sell my honey, had not other bee-keepers around me got plenty last season; most of them, for the first time for years. They have done as James Heddon says, glutted every grocery in the neighboring towns with their broken and mashed up honey, at any price they could get. Two of my most successful neighbors came to me, and said they had tried, all around, to sell their honey, but could not at any price. One of them offered me all his bees at a very low figure, except two colonies for family use.—The other said he would sell me all but 2 or 3, as he could not make bees pay without a market, and would not keep bees to give the honey away.

I see but one remedy for this evil, and that is to create a market: and that can only be done by a more extensive use of the luxury, for to this day, it is used only as a luxury. I have never seen honey on a table at hotels, or weddings, nor do I see it on family tables, only when visitors are present. It is on my table, three times a day, the year round, just as it is on D. D. Palmer's. It is astonishing that people are so ignorant of the healthfulness of extracted honey, and of the unhealthfulness of all other sweets that are constantly on their tables, such as syrups, molasses, etc. But the present age is an age of learning, and I do not think people will continue to be so ignorant many years. It is contended that the low price of honey, at present, will bring it into general use, and so create a market. This does look reasonable, and I hope may be so. Specialists would furnish the market with the very best article, in the most marketable shape, but I do not think they could afford it, at the low figures it has come down to. It is only specialists who fully understand it, and are able to furnish it in the most marketable shape, for a reasonable price. It is no little, or easy labor. How friend Cook could call it such a light and easy occupation, at all times, I am not able to see. I have worn out, many a time while extracting, hiving, etc. As all practical bee-men know, bees frequently require constant work with them, in just such days as the apiarist would rather not be out in the hot sun. I have frequently had my clothing wet with perspiration, as if I had just emerged from a bath with my clothing on. Bees require everything done at exactly the right time, or there is no success with them. Can farmers, or others, who take no pains to learn the nature and habits of the bee, know how, or take the time to attend to them, as the necessity of the case requires? No; specialists only will do this!

I will now ask practical bee-men a question, which I have never settled by experience yet. When extracted honey, in barrels, sells at 10 cts., what ought honey-comb to sell at, to equal it? I have not had experience with both attentively enough to satisfy myself. The nearest I can come to it is that there is 15 cts. difference per lb. If extracted honey sells at 10 cts. per lb., comb honey should be 25 cts. In the last 2 years, I have only made 5 cts. difference, from the fact that people here have come to understand the difference between comb and extracted honey on the stomach, and I can sell more extracted honey at 16⅔ cts. than comb honey at the same price. In fact, I can only sell the comb to such as have not learned that wax is unhealthy for the stomach.

COMB FOUNDATIONS.

I am very glad to hear that the comb foundation is a success. I have kept quiet, and never tried them, from the fact that I thought they would prove a failure, such as fertilization in confinement, etc. If spared, I expect to give them a fair trial the coming season.

FERTILIZATION IN CONFINEMENT.

As to fertilization in confinement, I think no one has experimented with it more than I did, nor do I think any one succeeded. If Mrs. Tupper succeeded, as she claims to have done, why in the name of common sense did she quit it? Who would succeed with a thing of such vast importance, and then quit right off? N. C. Mitchell comes next, but you all "*know* him."

I will here relate a fact in my experience, and leave you to judge, and remark as you please how it was. To make you fully understand the case, I will number the nuclei. No. 2 sat just 8 ft. from No. 1, in front. The queen in No. 2 hatched with no wings; but otherwise was a very fine and sprightly one. I was, at that time, trying fertilizing in confinement, and determined to give her a trial, as she had no wings to fly. A week after she was hatched, I went to No. 1 to put in a cell. I then examined No. 2; the wingless queen was gone; next day I examined again, but could not find her. Then I opened No. 1, and found the cell was destroyed. I then gave both of them another cell, and in 3 days after

examined both again. No. 2 had a new queen; No. 1 had destroyed the cell again. I then examined and found, to my surprise, that the wingless queen was in No. 1, and laying. She was then but 11 days old, and I had tried the fertilizing fixture on the No. 2 nucleus from the 5th day of her age to the day that I missed her. This queen became a No. 1 layer, but died the next winter.—The question is: Did she fertilize in the cage or while she was out? If, while out, drones must have found her on the ground or on a bush, and in returning, she got into the wrong nucleus. R. M. ARGO.

Lowell, Ky., Jan. 4, 1878.

For the American Bee Journal.

Wintering—Shading Hives.

We are having, so far, the warmest winter within the memory of the oldest inhabitant. During this month there has been less cold weather than we sometimes have in April. A soft maple tree, that stands in front of my study window, is nearly in full bloom, the flowers having opened yesterday. If it were not that the morning is cloudy and dark, with a little rain, the bees would be busy among the blossoms. Surely, the like was never known before.

A gentleman from Indianapolis informed me, last night, that at that place strawberries are in bloom in the open ground.

Bees on the summer stands are wintering exceedingly well. They have certainly been better out of doors than they could have been in cellar or bee house, during this warm weather.

I see that some writers recommend the shading of hives during winter. I am satisfied that this is bad advice. In a very cold winter, the hives in my apiary that wintered best were those that were most fully exposed to the sun, and that fronted the south, so that the sun shone full on the entrance of the hive; and those suffered most that were most shaded. M. MAHIN.

Logansport, Ind., Dec. 22, 1877.

For the American Bee Journal.

The Season in Minnesota.

I think much of the BEE JOURNAL. I am an old man, have practiced dentistry for 40 years, my eyes and my nerves have failed me for that, and I find bee-keeping just the thing for me. I have kept a few for 5 years past. Have now 43 colonies, 10 of them Italians. They did very fairly the last season. June and July were the best honey months I have ever known, for white clover and basswood; but August was dry, and September was cold, so they were light in the fall. Had to feed some. I have best success wintering on summer stands. I pack straw, about one foot thick, around the hive, except the front end, which is double, with half an inch space. I use a packing of straw over the bees, in place of a honey board. My hives are of the Langstroth style, but 12 inches deep. Have produced comb honey principally. The last season, I used section boxes. Find a home market for all I can produce, at 25 cts., though plenty of honey is brought in buckets, pans, etc., at from 12 to 20 cts.

My locality is not the best. Lake Pepin is on one side of me, 3 miles wide, with timber on the opposite shore, and many bees are lost in crossing. In the opposite direction, the bluffs are about 1½ miles from me, and are 100 feet above the lake, which is the prairie level. These bluffs are cut with ravines, in which is timber, with some basswood among it. So my bees, for some of their stores, go some 3 or 4 miles. Between the lake and bluffs there is white clover in abundance, when not too dry. Also have garden bloom, such as currant, raspberry, plum, apple and buckwheat. It was so dry here in August that I got nothing from buckwheat. I sowed the spaces between the railroad track and the fences, last year, to mustard. I design to try some mignonnette next year. My hives averaged about 40 lbs. surplus, the last season. D. R. BOUTELLE.

Lake city, Minn.

For the American Bee Journal.

Bee-keeping as an Avocation.

I began bee-keeping from a desire to have an avocation that should be suited to my temperament and my profession. My experience has been delightful. It seems as if nothing could have been more in accordance with my desire.

1. In the first place, the bees themselves are most interesting objects of study, so that one who has become weary in his usual duties turns to them with a hearty zest, and becomes so absorbed in observing their structure and habits that his mind has the best kind of recreation,—recreation that comes from a different and attractive occupation.

2. To keep bees according to modern methods, in movable-comb hives, and with the aid of the honey-extractor, comb-foundation, artificial queen-rearing, and nucleus swarming, is an art that requires careful thought and close observation. It is an art so full of interest and pleasure that I think very few thoughtful people, who once enter upon it, will fail to find it very absorbing indeed. To perform all the operations in bee-keeping in the most successful way, requires a skill and delicacy of manipulation that will most surely call one's mind away from the cares of his regular vocation.

3. The labor of making hives and frames, and of getting every part to fit with the nicest accuracy, so that every hive and every frame is perfect in the most minute points, is calculated, also, to give the mind a beautiful change from its ordinary pursuits. It is a labor, that, when successfully accomplished, gives a satisfaction that can be appreciated only by those who have experienced it.

4. The larger part of the work in bee-keeping must be done in the open air. For all whose usual work keeps them much indoors, this is a most important point. This open-air work is done in pleasant weather, and under the most favorable conditions as to health, the mind being so fully taken up with the work that there is no thought of laboring for the sake of exercise.

5. While one is thus getting rest and pleasure in the care of his bees, the product of his bees will richly repay him for all his labor. Many persons think they cannot

afford the time for exercise in the open air, so they neglect it, and in a few years break down. In bee-keeping the honey will pay them for their time, and the good health and pleasure will be so much clear gain, so much stock laid up to help them in their customary work. If laborers, mechanics, clerks, teachers, clergymen, in country, village or city, would keep a few swarms of bees, they would obtain not only a delightful recreation, but also a delicious article of food for their tables.

6. I passed my last vacation of two months,—July and August,—at home, and every pleasant day I was among my bees.—Those were very happy hours that I spent in the orchard, surrounded by my busy little friends, attending to their wants, and watching their progress. They seemed to understand my interest in them, and to repay it by increased industry. Many a moon-lit night in the honey season, I sat for hours under an apple tree near the hives to listen to their roaring, and enjoy the view of the fairy-like city, with its hundreds of thousands of inhabitants, that had sprung into existence under my guiding hand.—Through all my work your little JOURNAL was my "guide, philosopher, and friend." I hope it may lead many more to an avocation which I am sure will give them health and pleasure, and a fair profit for their labor. O. CLUTE.

Keokuk, Iowa, Nov. 15, 1877.

Wintering Bees.

In the *Country Gentleman* for Nov. 22d, I notice some extracts from Mr. N. N. Betsinger's address, delivered before the Bee-Keepers' Association, at its recent session in New York. To those who know Mr. B., it will be a matter of no surprise that he should advocate a theory which differs so widely from the experience of all others. I do not doubt Mr. B.'s sincerity in his statements. I have sometimes thought, from the influence he exerts over our conventions when addressing them, that bees, under his care, would become changed in their nature, and make success for him out of what would be failure for others. That bees must have a sufficient amount of empty combs to cluster on to form a compact body, I had supposed, and yet believe, to be an established fact. When the cluster is formed in cold weather, a bee occupies each cell within the given space making the entire body of bees even smaller than if the combs did not pass through the cluster. This is from the fact that the walls of the cells are very thin, and by filling them, the bees are arranged in more perfect order than they could be otherwise.

Had Mr. B. qualified his statement by saying that combs might be placed solid in the center, full of honey, when wintered in a warm place, it might not have seemed so entirely erroneous; or had he said, that often too much comb is supplied with the honey, too far from the cluster in different directions, I should have agreed with him then. As bees naturally fill their combs with honey, they commence at the top; and seal the cells there first. As the season closes, the brood nest is limited to the bottom and center of the hive, and the spaces in the outside combs, at the top, rear, and partially at the front of the center combs, will be filled with sealed honey. In such hives, if the combs in the center are sealed down too far to allow the bees to cluster without coming between combs of sealed honey, they will crowd even below the bottom of the combs. If they are obliged to cluster between combs so filled in very cold weather, they will be sure to be found frozen. I have noticed bees so frozen in several hives this present month, even before severe cold weather.

The assertion has long been acknowledged true that "hives so full of sealed honey that bees have not room to cluster, without remaining between combs so filled are in poor condition for the winter;" and I believe it to be a truth which corresponds with the experience of every practical bee-keeper, unless it be Mr. B. The object of this article is to prevent the inexperienced from losing bees by following the advice of one whose experience differs so widely from that of all reliable writers on the subject.

Mohawk, N. Y. L. C. ROOT.

For the American Bee Journal.

Honey-dew.

The question what honey-dew is, and how it is procured, appears to have been variously answered. Some contend that it is the product, or secretion of the aphis, a small insect—others that it falls, and is the product of some atmospheric influence. I am inclined to believe that neither of these theories are true, and that the origin of honey-dew is generally or entirely misunderstood. That it could be the secretion of the aphis in whole, or in part, in the quantity in which it is found in this country, is absurd. It is frequently found in such quantities as to drip from the leaves of the trees. There are certain facts connected with it that indicate very clearly its origin and nature.

1. It is never found on all kinds of trees and plants at the same time.

2. It is never found on dead leaves, or anything dry, except as it has fallen, or been blown from some green vegetation.

3. It is always found when vegetation is in a healthy and growing state.

These facts show that it does not fall, or is the product of the aphis. If it fell, it would be found on all objects alike,—if the secretion of the aphis, it would always be found where they are, and on shrubs on which they work. I have found it in abundance where no insect could be discovered with the microscope.

Honey-dew is generally, or always produced by the exudation of saccharine matter from the leaves of trees and plants. It is the same substance that is found in the flower. When the tree is in a very growing state, more saccharine matter is produced than is necessary for the health of the plant, or tree, and it is thrown off in the way of perspiration, through the pores of the leaves. Honey-dew is probably more abundant in this country than in most others. It is more generally found on the hickory trees than on any others—always when the tree is in a very growing state.—It is generally found at two seasons of the year; in the spring, when the leaves are full grown, and during our spring rains—and in the fall, after the commencement of

our fall rains, and the trees take a second growth. During the summer of 1860, we had a very dry summer; from March to August no rain fell. All vegetation took a second growth, and honey-dew was so abundant that it dripped from the hickory trees. Those of us who have noticed these things can generally tell when honey-dew will appear, and in what quantities. If the season is very favorable for vegetation, and the growth very rapid, honey-dew will certainly appear in profusion. It never does appear in the season when vegetation is in a suspended state.

In the winter of 1862, honey-dew was abundant on the pine trees, most of the winter. It was an open winter, and the season of growth for the pine trees. My bees gathered honey all winter, of a light, thick character, and which candied very readily. Bees gather honey very rapidly, when the honey-dew is on the leaves.

It is of different color and consistency, according to the color or nature of the source from whence it comes.

From the leaves of the post oak it is dark and thick; from the hickory it is lighter and thiner. The honey from the hickory leaves, I think, would be considered No. 1 honey. From a close examination of the leaves with a microscope, I think I have demonstrated the origin and nature of honey-dew. It is the same nature and color of the honey made from the flower of the same tree. For instance, honey-dew is found frequently on the peach leaf, after the flower has gone, and is of the same taste and color as that made from the bloom. In this country in 1862, the honey-dew could not have been from the aphis, for it abounded in the winter when they were not out, and they could have had no connection with it. I am inclined to think that where the aphis have been found in connection with honey-dew, they were attracted to it as a food. In this country, it is certainly the saccharine matter of trees and plants exuded through the leaves.

My theory, I think, will account for its presence in every country. The facts, which I have stated, certainly overthrow the theories which have been advanced to account for its appearance heretofore.

W. K. MARSHALL.

Marshall, Texas, Jan. 3, 1878.

For the American Bee Journal.

Cellars versus Summer Stands.

"Experience is a dear school" is an old saying, and "fools will learn in no other" belongs to it. The latter I hate to apply to myself, but it hits me some this time. Last winter reduced my stocks from 139 in the fall to 13 in the spring of 1877. It was no bee cholera either, or dysentery, but starvation with plenty of honey in the hives. It came about in this way: I commenced bee-keeping about 8 years ago, and bought a few stands; I had one presented to me.—The first winter, I left them on their summer stands in box hives, made a roof over them, and the house protected them some from the north winds, but every warm day that they could fly, they came out and got down on the wet, cold ground, or worse, in the snow, and never again saw the inside of the hive. Next year I transferred them into Langstroth hives, and put them in my cellar, and they did well, loosing but a few. Last winter I intended to quit my occupation, milling, for a while, so I made calculations to move my bees 10 miles, to a small farm I owned, where there was no cellar.—Thinking I could move them best on a sled, I left them on their summer stands, waiting for good sleighing, but it did not come. It got cold about Dec 1st and kept getting colder, and did not let up, so the bees could not get at new stores, and all but 13 of my 139 colonies starved to death.

I want no more wintering on summer stands, without ample protection. I have now dug a cellar, and am going to try again. I now have 24. D. H. KELLER.

Fulton Co., Ill., Jan. 2, 1878.

For the American Bee Journal.

Management of Box Honey.

Box honey should be taken from the hive as soon as it is finished, or as soon thereafter as possible. No apiarist can expect to have his honey sell for the highest market price if he allows it to stay in the hives for weeks after it has been sealed over, allowing the bees to give the combs a dirty, yellow color, by constantly traveling over it. We go over our yard once a week in the honey season, and the past season, it took 4 days to get over it, leaving us but 2 days to attend to other duties in the apiary.

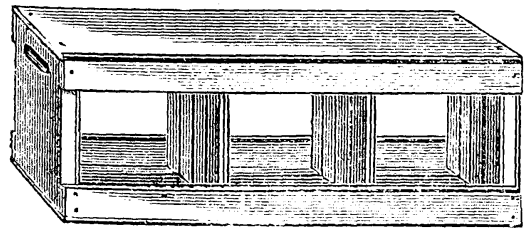
It is often asked: "What shall we do with our honey after it is taken from the hive?" All box-honey-producers know that there always will be cells next to the box that are partly filled with honey, but not sealed over, and when taken from the hive, if the box is turned over sidewise, the honey being thin, will run out, making sticky work.

We also see in the papers, questions like this: "What shall I do with my honey?—The honey is oozing out of the cells, and the whole comb has a watery appearance." While in New York, last fall, we saw honey by the 1,000 lbs. that looked as if that question should have been asked some time before, as it had been kept damp so long as to become soured, and smelled badly.—The remedy for this is a small, warm room: and this answers the above questions perfectly. Bees evaporate their honey by heat, and therefore, if we expect to keep our honey in good condition for market, we must keep it as the bees do, in such a position that it will grow thicker, instead of thinner all the while. Our honey room is situated on the south side of our shop, and is about 7 ft. square, by 9 ft. high. We have a large window in it, and the whole south side is painted a dark color, to draw the heat. In it the mercury stands from 80 to 95 deg., while our honey is in it, and when we crate it for market, we can tip our boxes as much as we please, and no honey will drip, neither will any of the combs have that watery appearance spoken of above, but all is bright, dry and clean. A small honey house, separate from any other building, painted dark, with tin roof, would be still better, but would not be as handy.

But if we keep honey thus warm, the moth will make its appearance, and make it unfit for market, by gnawing off the sealing to our beautiful combs, and also by their

sickening appearance in the boxes. The next question, then, is: "How shall we head off the moth?" They will always trouble combs of any description, if taken from the bees in warm weather. We will give the way we manage. We build a platform on either side of our honey room, of scantling, about 16 inches high, and on this we place the boxes, so that the fumes from burning sulpher can enter each box, (the section boxes pile admirably for this purpose); in about two weeks we sulphur, by burning ¾ of a pound of sulphur for every 200 cubic feet in the room. We take coals from the stove and put them in an old kettle, so as not to set anything on fire, pour on the sulphur and push it under the pile of honey, and shut up the room.—Watch through the window, and in 15 minutes after the last fly or bee that chances to be in the room has died, open the door and let out the smoke, for if it stands too long the smoke may settle on the combs, and give them a greenish hue. As there may be a few eggs that have not yet hatched, we sulphur again in about 10 days, after which the honey will be free from moths, if you do not let millers into your room.

Novice says, on page 245, vol. 5 of *Gleanings*: "If the sections of honey are put into the market at once, as they should be, in our opinion, there will be no need of any fumigation with sulphur." On page 241, same vol., he advises having your shipping case by your side while taking off honey, and packing the honey in it, as it is taken off. No worse advise than this could ever get into a bee paper. While in New York, we saw more than 1,000 lbs. of honey with the sealing all mutilated, or entirely eaten off, with great disgusting worms in the boxes, sent out by some careless bee-keeper, whose opinion was, if he had any, the same as that quoted above. After your honey has been sulphured the last time, you are ready to pack it in shipping cases or crates, the best of which is one gotten up by P. H. Elwood, Starkville, N. Y., and holding but 12 section boxes, of about 2 lbs. each.—



THE SHIPPING CRATE.

Speaking of his crates, Thurber & Co. says, "they presented the finest appearance of any crate they had received the past year." The crates and boxes should all be kept clean and bright, and no pains spared to make the honey present as enticing an appearance as possible. Thus you will realize the highest market price for your honey, and in a year or two your honey will be sought after by those desiring to purchase, instead of your having to ship it on commission, or peddling it out.

G. M. DOOLITTLE.

Borodino, N. Y. Jan. 8, 1878.

[The "Crate" spoken of by friend Doolittle is identical with the "Prize Crate" described on another page.—ED.]

Western Illinois Convention.

I submit the following remarks on the Western Ill. Convention Report in the January number:

BEST METHOD OF CATCHING BLACKS AND INTRODUCING ITALIANS.

I like McGaw's plan of catching queens best, only when you take cap off, set it on the end in the shade, and cover the hive for a few minutes. This gives the bees time to recover from their fright, and to show by their quietness, or restlessness, whether the queen is with them; also to prevent her flying up over the cluster when you pour them on the sheet. I then put her in the cage, and put it down in the middle of the hive for 6 hours; then remove her and put Italian in the same cage for 48 hours, and let out about sunset. I never failed this way. I have lost valuable queens, sometimes by failing to remove all cells 7 or 8 days afterwards. Italians rarely ever start the cells with the queens inside, but blacks hardly ever fail to do so.

FERTILE WORKERS.

These used to be my masters, but now I am their master. About mid-day, take out 2 or 3 middle frames from the hive, with a fertile worker; go about 10 yards from the hive and shake off every bee in a pile; then take the frames to a strong stand, and exchange for frames full of brood, with the young bees just emerging. Brush back the bees, and give the frames to the fertile worker-stand and close up. Then you can give them a queen in the cage or cell to rear one by night, as by that time there will be young bees enough out to accept and protect either. Besides, if the fertile workers ever found their way back to the hive, they will kill them when they have a queen or a cell. I never failed in this method.

BEST TIME OF UNITING.

A tolerable cold evening, just at dark, alternate frames with bees on, and shade others on top of frames; feed with scented water and sugar.

BEST TIME TO PUT IN QUEEN CELLS.

If the cell will hatch in an hour, it will do at once; otherwise, better wait at least 8 hours, or till late in the evening. I have tried McGaw's plan of putting in at once, but always had them destroyed. Never cut them out in less than 9 days.

INTRODUCING VIRGIN QUEENS.

I have never succeeded with one in a a cage.

BEST METHOD OF SWARMING.

First raise the queen inside of the hive, by means of partition board, and build up. I have tried 20 or 30, but have never beat this. I also prefer natural swarming, if they come early enough to suit me.

HOW TO GET BEST YIELD OF HONEY.

Stimulate in the spring, using Graham flour, on Palmer's plan; but never feed sugar or honey in day time. Close entrance to within 1 inch, keep warm and feed a little on top of honey board, at night, three times a week. Have them all strong when the main honey season opens. One strong stand can do more than 6 weak ones.

BEST PROTECTION FROM BEE STINGS.

First, try to get rid of your cross bees.—There is a vast difference between bees. I never took the trouble to use protection, not even a bee veil, with some colonies I have had; to others, I would as soon think of going without protection, as to attack a leopard without it. First, approach the colony with Bingham's smoker; give them a puff, in the entrance, before you touch the hive; be careful not to strike your toe againgt it, then open gently, ready to give another puff of smoke on the least show of fight; but never puff unless they do fight.—I use nothing but the bee veil. Gloves are worse than useless. All clothing should be light colored, no red nor black.

R. M. ARGO.

Lowell, Ky., Jan. 5, 1878.

For the American Bee Journal.

Adaptation to Our Business.

For 11 years I have read with pleasure and profit the AMERICAN BEE JOURNAL, and have gathered the experience and best thoughts of its able correspondents. I have sent it about 50 new subscribers, since I began taking it. Some of them are successful bee-keepers, and well posted in the business, but others soon played out, not having energy enough to learn how to keep bees, or possessed no adaptation to the business. This is often the case in other pursuits. To succeed in any business, we must take pleasure in it.

In Southern Kentucky there is not one bee-keeper giving his whole time to the business; all have other pursuits, and the bees get but a small share of their thoughts and labor. I wish that some of our young men, who love the honey bee, and delight in its labors, would prepare themselves for the pursuit of bee-keeping alone, as thousands are doing for other pursuits. I would not pursuade men or women to engage in bee-keeping, if they have no natural adaptation, or love for it.

Bee-keeping has been reduced to a science, and is capable of becoming a great national industry. The honey bee has been man's attendant in all ages, countries and climes; still, bee-keeping is but in its infancy. 'Tis true, that many valuable discoveries and inventions have been made in the last half century, and bee-keeping now takes a high stand among the various pursuits of man, yet, I believe we are but the pioneers in successful bee-keeping. We must advance—onward being the watch-word of all who would succeed.

In addition to our standard works on bee-keeping, our bee papers and conventions, we need a school, where the science will be taught, and all the various manipulations practically demonstrated, so that our young men may graduate, and receive diplomas, as they do in law, medicine and other pursuits. Every state should have such a school, and then we may expect that the old and slovenly way of bee-keeping will be abandoned, and the millions of pounds of honey that now go to waste will be gathered and stored in waxen cells, to bless mankind.

N. P. ALLEN.

Smith's Grove, Ky., Jan. 7, 1878.

For the American Bee Journal,

Chips from Sweet Home.

In the AMERICAN BEE JOURNAL, of Jan., page 9, H. Haines says, under date of *Nov.* 22, "I have just built a *bee house* 52 ft. long, 7 ft. wide and 8 ft. high." A bee house of such dimensions is certainly of a queer shape. Is in not a cave? Also, "I have stored 50 hives, (double tier), and hope they will winter well. I have 50 colonies out of doors; top of caps filled with chaff, and shall thus try both ways." I had a postal card from H. Haines, dated *Nov.* 28, —*6 days later* than the above, in which he says, "Bees O. K. 83 in house,—17 in *cave.*" Now, why does he not tell the same story to all? Is it a winter repository, a cave or a house? Why did he say, Nov. 28, that he had fixed 50 for out doors, and 6 days previous, that he had none out doors?—Which of these two stories are correct?—Or, is neither? If this is not contradictory, please untangle and make it straight.

I would not willingly wrong any one, but it is as much of a pleasure for me to expose error as it is to hold up the truth. Why do not some of his *numerous* visitors tell us of his Cyprian bees, and how many hives of each kind? If he has as many orders, or names as he showed me at the Convention, why not satisfy the AMERICAN BEE JOURNAL and *Magazine* that he has Cyprian bees, and he only, and advertise. If he is the first to introduce Cyprian bees, to him the honor belongs. Let him send his receipts, etc. to the BEE JOURNAL, to prove that he is right, as the right wrongs no man, also, let him remember that two wrongs never make one right.

Eliza, Mercer Co., Ill. D. D. PALMER.

For the American Bee Journal.

Apis Dorsata.

In the absence of further information about this bee, (which I hoped to receive before this), I will make some remarks upon Mr. Cori's article, which late information may confirm or show to be incorrect.—It is singular that this bee, according to Herr Cori, is not hunted in Java, and yet, in some of the other islands of the Archipelago is so fearlessly and successfully hunted, as described by Mr. Wallace in last month's issue. That "these bee-hives are in hollow trees" is an important fact, in addition to what Mr. Wallace gives us.—The bee-hunters probably consider it far more important that they also build in the open air, where their products can be the more readily secured.

Not many of our skilled bee-keepers would care to secure honey and wax after the method described by Mr. Wallace. It does not follow from the greater length of the sting that the wound is more painful, nor does the fear the Javanese have of being stung weigh much with me. We all know how the public generally view bee-keeping. "How long have you kept bees?" "30 years." "Did you ever get stung?" "Yes." "I would like to keep bees very much, but if I thought I would ever get stung I never would go near a hive." This conversation was with an army officer, who had been in many engagements. I gave him a frame

of honey, exposed, to carry home. He remained a few minutes talking, before getting in his buggy, and a few bees, scenting the honey, followed him. He held the honey, and his wife drove. The next day I saw him, and he said he had a dreadful time with that honey. But for his wife's ridicule, he said, he would have thrown it away a hundred times. The bees followed a long distance. I said, "I prefer bees to bullets." He replied, "tastes differ, I prefer bullets to bees."

Mr. Wallace states that the comb was white, which shows that it was of that season. He is such a close observer, that had the comb differed materially in size or structure from that of the honey bee of his native land, England, he would, unquestionably, have noticed it. I am sure you all now feel as if you would like to be in just such a situation as Mr. Wallace was that day, and provided with a movable comb hive, and all other requisites to transfer comb and bees, and await the results to report to the readers of THE AMERICAN BEE JOURNAL. E. PARMLY.

For the American Bee Journal.

Mignonette for Bee Forage.

Last season, I was induced to sow a bed of Mignonette to give my bees an opportunity of finding forage, when other plants failed. I accordingly procured the seed of seven different kinds of that plant to ascertain which would best answer the purpose.

Although not put in the ground until after the middle of April, it appeared to be too early, for it remained about two weeks before showing itself, and then it was such a little tiny thing, that it appeared as if it would never turn to any account.

I planted them about a foot distant in the row, and made the rows two feet apart. I scarcely got one plant for ten seeds that were planted. At first I got quite discouraged when I saw in many spots not more than one small plant in four feet, and then so late springing up, that the weeds had almost choked them before they attained sufficient size to admit of being worked. However, I set to work with my pocket knife and cleaned out the largest portion of the plat, though I had to abandon some on the poorest portion of the land.

After being started under diligent cultivation, it was astonishing to see the rapid progress which they made. The plants soon covered the ground where the soil was good, and were out in blossom in a short time, and from that time forward, the bees were working on them by the thousand, from morning until late in the afternoon. I have seen them thick on it by eight o'clock, and not leave it until late in the afternoon. It yields pollen as well as honey, and you can easily know the bees that have been gathering from it as their thighs are red, whereas, almost all the other pollen is yellow, or different shades. I intend to plant a larger plat this season, with seed of my own raising; sow in a bed, planting about a foot distance in the row, with the rows two feet apart and in this way have full opportunity of hoeing it and keeping it perfectly clean. By thus getting it started in bloom early in May, I expect to have continuous bloom until frost, and even latter if the frost is not severe. I have said it will blossom from early summer until frost; this however, must be taken in a qualified sense. Take any single plant that blossoms out early, and, unless in very moist ground, it will be exhausted in its blossom by about the middle of August; but when you grow different kinds, some will bloom later than others, and these will continue correspondingly later, so by mixing different varieties, we can have continuous blossom from May until September or October; or by making a second planting, say in June, we can have the best kind of fall plants, from which to furnish the bees with the best kind of honey to winter, and thus be enabled to put them safely into winter quarters. I had plants which I set out in the very dryest time in July, that, when I left Algonac, in October, were just nicely started into blossom, and I distributed them among my friends for bouquets.

It has been stated that the bees work more upon the common sort (*reseda odorata*) those of the larger varieties. This however, I have not noticed in my observations. On the contrary, have found that on account of the spikes of the blossom being so much longer, the bees work most on the larger varieties. The common sort strikes earliest into bloom, but it is earliest to decay. I have some sorts which stand about two feet high, and grow like a tree, the spikes being from eight to ten inches long; while others do not grow so tall, they branch out and cover a space more than two feet square. On one of them, the largest of the lot, I counted three hundred spikes of flowers, and thicker than in the common sort.

A correspondent from California, stated that he thought "an acre of Mignonette would be adequate for a hundred colonies". This no doubt is correct—not that any person would say, that if there were nothing else to subsist upon this would be adqeuate—but when you give them this, in addition to what they otherwise would have, it will certainly secure an immense increase in the honey produced. He also, stated that he thought "2 lbs. of seed to the acre would be sufficient." My own impression is, that managing it as stated above, it will not take more than half that amount.

He adds: "Mignonette is reckoned one of the sweetest scented of garden plants, and is only valuable for its purfume, or its forage properties for bees. There is no plant, within the range of our knowledge, as valuable for bee forage as mignonette. And why? It will keep in bloom year after year, if not disturbed by frost, and it gives a longer period of bloom than any other plant. It gives more blossoms in a given space, and therefore more forage than any plant we have ever seen. Honey made from this plant has the most delicious fragrance of any that we have ever tasted, and when it has been tested in market, is far ahead of California, or any other brands of honey in worth, and brings much higher price. We think that our acre of mignonette will make enough forage for one or two hundred colonies of bees....We place mignonette in the lead of all other plants we know of, as a crop to cultivate for bee forage."

As for as my observation goes, I confirm the above statement. I distributed considerable of my extracted honey to my neighbors, who said they had never tasted anything so fine before. WM. THOMSON.

Conventions.

North Western Ohio Convention.

The N. W. Ohio Bee-keepers' Association convened at Delta, O. Jan. 3, 1878.

In the absence of the President, Vice President A. Fahnestock, of Toledo, took the chair; D. Kepler acting as secretary.

After the reading of the minutes, the chairman produced a letter from President E. L. Mann, stating his inability to attend, but hoping that the convention would be productive of much good. He reported that his bees were doing splendidly, and that he expected large increase and surplus during the coming season.

Members present were invited to submit reports of operations.

Mr. Pray, of Delta, gave his experience with purchased Italian queens. He had one that produced about equal quantities of black and Italian workers.

Mr. W. F. Williams had similar experience. He thought it the result of the queen being fertilized by a black drone.

Others reported similar experiences.

Mr. Clifton reported 58 colonies in winter quarters, with from 30 to 35 lbs. of honey in each hive. He thought a tight board fence on north and west advantageous. He had not been entirely successful in wintering, but turned to good advantage the comb and honey left by dead colonies, in building up increase, and artificial swarming. He had extracted twice from each hive during the season. His bees had paid him well.

Mr. Williams, of Henry Co., commenced in the spring of 1877 with 50 weak colonies; sold 2 and increased to 154 strong stocks, and got 2,000 lbs. of extracted and 400 lbs. of comb honey, in frames. He fed syrup to weak colonies in April and May; increased artificially and secured pure fertilization, even when surrounded by black bees, by confining young queens and fine drones to the hive till black drones have returned, feeding them on warm diluted honey, and then allowing them to fly out. He did not believe in taking queens reared in nuclei and introducing them to colonies; he built up these nuclei by adding hatching brood from strong stocks. He secured queen cells by giving eggs from pure mothers to queenless colonies, after taking from them all eggs and larvæ that a queen might be reared from.

The Chairman described the method of rearing queens, given by Mr. Russell, of Adrian, at the Michigan Convention. He said some bee-keepers who practiced natural swarming permitted only one swarm to issue from each colony, and giving that swarm a hive already filled with combs.—Such swarms often produced 50 lbs. of box honey in two weeks.

Mr. Pray had some trouble with queens laying in surplus boxes.

Mr. Williams found bees in cellars all quiet, with the temperature at 45° to 50°; at 53°, they were a little uneasy. There is economy in cellar wintering, as bees would only use about one-half as much honey as when left on their summer stands.

The Chairman said he went to the Michigan Convention to learn the best method of wintering, and found that most of the Michigan bee-keepers packed their hives in boxes, surrounded by dry chaff, and had abandoned cellars and repositories for wintering. He had prepared his with chaff, and would report the result at the next meeting. He should not remove them till warm weather in June. He advised those using cellars not to disturb their bees till settled warm weather in April or May.

Mr. Pray carried his bees to the cellar, (nearly half a mile distant), by hand, so as not to disturb the bees. The walls of his cellar were three thick, with dead-air spaces between each brick wall; double doors, cement floor and double ventilator.—It cost $130 and would hold 200 colonies.

W. F. Williams had his bee yard partially shaded, sloping to the south, but thought it of no value. He wanted all the sunshine he could get, except in extreme hot weather, when he would shade with loose boards.

The Chairman had his hives under pear trees, where they are shaded in the hottest part of the day.

Mr. Kepler said that with hives unpainted, or painted white, he wanted no shade, but if painted any color they should be partially shaded.

Mr. Williams offered the following:

Resolved that the traffic in dollar queens should be discouraged.

Mr. Clifton thought it best to obtain pure or imported queens and rear for his own use. He once bought some for pure Italians that were so cross that they stung everything within their reach.

The Chairman had no success in buying dollar queens; he had daughters of imported queens, and now reared his own queens.

Mr. Williams believed that the purchase of cheap queens was a great detriment—filling up the country with inferior stock—and urged the purchase of only the purest Italian queens, even if it involved the necessity of sometimes getting imported queens.

Mr. Kepler advised getting an imported queen to rear queens from.

Mr. Williams' resolution was carried unanimously.

The President announced the following discussions for the April meeting:

Italian Bees and Queens—Capt. W. F. Williams.
Introducing Queens—Mr. Clifton.
Profits of Bee-keeping—Mr. Rakestran.
Hives—Mr. Davoll.
Honey Producing Plants—Mr. Kepler.
Marketing Honey—Mr. A. Fahnestock.
The Pleasures of Bee-keeping—Col. Mann.

The Secretary was instructed to notify the persons named to be ready with their essays.

The following resolutions were passed unanimously:

Resolved that the proceedings be published in the Delta *Avalanche*, and THE AMERICAN BEE JOURNAL.

Resolved that the thanks of the Convention are accorded to Dr. Ramsey for the hall; to Messrs Pray, Hath, and other citizens of Delta, for entertaining bee-keepers from a distance; and to the proprietor of the Crosby House for favors extended to members of the Convention.

The Convention then adjourned to meet at Napoleon, O., on the first Thursday in April, 1878.

DANIEL KEPLER, Sec. *pro tem.*

Michigan Convention.

[Concluded from last issue.]

The following persons paid the usual fees and became members of the association:—Dr. Southard, T. F. Bingham, Prof. A. J. Cook, L. C. Whiting, Wm. Spedding, Dr. C. F. Ashley, B. O. Everitt, G. G. Allen, H. Barber, Jos. Butler, Wm. Thompson, F. W. Gilbert, D. G. Sheppard, E. Goodrich, J. W. Benedict and P. R. Wilson.

STATISTICAL TABLE.

NAMES.		No. in Fall, 1876.	No. in Spring, 1877.	Swarms in 1877.	Surplus Comb Honey, lbs.	Extracted, lbs.
J. O. Shearman	B*	100	60	40	1600	600
H. Bird, Jr.	M†	10	10	40	..	..
D. Falconer	M	10	10	40	..	..
H. L. House	M†	42	40	20	1100	900
C. Middleburgh	B*	16	14	24	600	..
M. B. Williams	I	32	11	23	..	..
Mr. Bryan	B*	32	30	50	..	3000
D. E. McCrary	B*	26	24	36	600	..
John Heffner	¶*	12	12	12	1000	..
Thos. Burt	M*	60	60	60	4350	..
Mr. Dodge	M†	60	60	60	1000	..
I. Hoag		..	3	6	60	..
T. J. Sutton		..	4	6	25	..
I. P. Weeks		..	..	13	75	..
G. G. Allen		..	17	13	400	..
J. W. Allen		..	25	25	600	..
B. O. Evarts		..	3	11	300	..
Wm. Spedding	B	..	27	7	850	200
H. J. Ray		..	10	15	325	..
H. Barber		..	15	..	..	350
P. R. Wilson		..	10	6	225	225
J. L. Standart		..	1	2	30	..
Wm. Thompson		..	6	4	20	125
Mr. Caywood		..	26	30	250	..
Miss M. Sweet		..	6	6	20	..
A. H. Russell		..	75	70	3000	3000
Jos. Butler		..	74	35	4000	..
Mr. Caldwell		..	18	29	200	..
T. F. Bingham		..	80	70	3850	2500
W. H. Shirley		..	83	12	4500	..
A. S. Weeks		..	59	15	3410	150
P. Leonard		..	16	12	613	..
J. Tomlinson		..	25	13	600	..
Southard & Ranny		81	81	56	3000	500
P. S VanRensselaer	B	..	8	15	600	600
H. H. Overmyer		..	116	199	..	10000
L. C. Whiting		..	20	56	..	..
Mr. Gilbert		..	50	40	500	..
A. C. Perkins		..	7	4	200	..
Mr. Porter		..	14	10	300	..
Mr. Conklin		..	2	2	15	..

* Wintered on Summer Stands.
† Wintered in Cellar.
B Black Bees.
I Italians.
M Mixed.
¶ Both Kinds of Bees.

QUESTION BOX.

The following questions were asked:

1. "Are incredible reports from the fraternity an advantage?"

The President replied that such reports were not frequently made, but that which often seemed incredible was true.

2. "Do bees injure fruit?"

Dr. Whiting said that in his observation bees did not cut their way into ripe fruit, but would work on any cracked or marred fruit.

J. W. Helme said that he thought that they *would* attack fruit, but only as a last resort, when they could get nothing else.—They would eat peaches and grapes.

Mr. Fahnestock said he was a fruit grower. He had 60 acres of it. His apiary was in his vineyard, and he had made careful examination for years, and he never knew sound fruit to be attacked by bees.—Peaches that had burst their skins were, of course, a source of food.

Dr. Southard had sat for hours at a time to watch for work of bees on fruit, but never saw them do it.

The President said that the cases were authenticated of bees attacking fruit, but there were very few cases. He had experimented with fruit placed before the hive, and never knew a case where the bees touched the fruit.

3. "Which bees are best, Italian or black bees?"

A vote was taken, and 13 voted for the Italians and 5 for the black bees. Mr. Bingham voted both ways, and explained that for breeding, and for extracted honey, Italians are the best; but for box honey, nothing could equal the black bees.

4. "Can bees be safely moved during the winter?"

Mr. Bingham said that it formerly was done very easily, but of late there seemed to be some difficulty.

Mr. Overmeyer said he would not hesitate to move them at any time, but he would want them to have a cleansing flight within 2 or 3 weeks thereafter.

Mr. Porter reported the removal of his bees on Thanksgiving, and he examined them this week and they were doing well.

Mr. Springer reported a case where a friend had removed bees from Canada to California in mid-winter, for two seasons, with great safety and success.

The opinion prevailed that it was safest not to remove bees till spring.

5. "What number of colonies can be kept in one place, where there is plenty of sugar maple, basswood and clover?"

Mr. Benedict said 1,000 colonies in one place, and 1 colony 3 or 4 miles from it would be found to do equally well.

Mr. Butler said he could not observe but his 140 colonies did just as well as his 30 formerly did.

The President found in California that 500 colonies were easily kept at one place.

6. "What is the best mode of dividing stocks?"

Mr. Bingham was called upon, and said he could hardly answer the question as put. He supposed it had reference to artificial methods. There were various methods, but it was about as cheap to buy as to divide. His hives sat upon a frame, and had movable bottoms. When a hive was breeding, he would place a hive with comb on top of it, and soon the bees would go up into it, and when the bees got fully to work, remove the old hive with the young brood, and the swarm is divided.

What to do with Surplus Stocks.

READ BEFORE MICHIGAN CONVENTION.

The surplus capacity of a hive should correspond to the size of brood chamber. If it far exceeds, in size, the brood chamber, it will be detrimental to storing honey. First then, there will not be bees enough to work in all parts of the surplus case at the same time; yet, we hear hive-venders say: "My hive will give the largest amount of surplus room of any hive known." Experience has taught us that a brood chamber of 2,000 cubic inches will not furnish bees for double that capacity of surplus. Such a hive will accommodate about 34 lbs. of surplus, and will crowd it with bees, but if double the size be given them, where are the bees to fill it? I can get more honey stored where the surplus is too small to accommodate all the bees, than in a surplus chamber that is larger than the bees can fill; and the comb will be brighter.

NATURAL SWARMING.

If honey be the object, then I prefer natural swarming.

1. Because I can run my apiary with but a comparatively small increase, no matter how much they are disposed to swarm. I allow no after-swarms to issue, consequently I make a short job of the swarming season.

2. Because it pays better to raise honey for sale than it does bees; and if I have but a small increase, then my stocks are all very strong, and it is from such stocks we get our surplus.

Some ask how I keep such strong stocks. I make them strong in May, and when they swarm in early June, I make them strong honey stocks as soon as they are hived, instead of compelling them to fill a new hive with brood combs, and let the best part of the season go by before they are strong enough to enter the surplus cases. I think it folly to try to prevent swarms from issuing after they once get the fever. No amount of tinkering with them will prevent it, short of division; and then you have two weak stocks in place of a strong one. If I should have a hundred stocks issue, I would not make more than 33 new stocks, compelling the ballance of the bees to store surplus. I do not pretend to know whether my plan will suit all locations or not, but it suits mine, and as it is to be supposed every practical bee-keeper should know just what his location will do, he should himself be the judge of it. In my location, white clover is abundant, but no basswood. I also have a very good fall pasturage. If I fail to secure a crop of white clover, I shall have but little honey to sell.

So I have adopted the plan of having large colonies to collect my surplus, as it must be collected inside of 45 days, if at all.

As soon as spring opens, and the weather gets warm enough, I go through every hive, and I make my selection for honey stocks. I work 70 to 85, according to condition for surplus stocks, leaving a balance of 25 to 30 stocks to draw on for brood and combs for new swarms. These new swarms I allow to build 2, or at the most 3 new combs; now the hive below being full, or nearly so, the bees have no place to store honey but in my sections—just where I want it. Besides, I get all my new combs built in my reserved stocks, and almost entirely worker-combs in my honey stocks. I clear out all my drone-comb.

The way I use the surplus swarms for honey stocks, after they are united to some stock that has sent out a swarm, is as follows: I mark day and date on each hive, and just 8 days from the issue of the swarm, I remove all queen cells, that is, providing I intend to return a swarm to this hive; or if not, I leave one cell to hatch. I invariably follow this plan until I have disposed of all my swarms. Such stocks will be very strong and will need plenty of room.—We often have to give them two cases of sections, or about 44 or 88 lbs. each.

We commenced the season of 1866 with 70 stocks, increased to 93. Receipts for that year was $831.47. We commenced the season of 1877 with 74 stocks, increased to 109. Receipts $810.00. Total for the two years, $1,641.47. JOS. BUTLER.

Jackson, Mich., Dec. 10, 1877.

What Shall We Wear?

READ BEFORE THE MICH. CONVENTION.

It is not to be expected that our apiarian brothers, whose attire is never an obstacle to any occupation, will be interested in the subject under consideration; we will, therefore, beg their indulgence while we engage in a little chat upon a favorite topic; and we will not be offended if they, meanwhile, turn a deaf ear, and ponder upon weightier matters.

What "the very latest" in apiarian fashions may be, it would be difficult to tell, but whether or not there should be a special dress for the apiary I conclude to be a question of importance, from my own experience, and from the fact that ladies contemplating a trial of apiculture, ask for information upon the subject.

"Is the ordinary long dress, with the veil and gloves recomended, sufficient protection from the stings of bees? If not, what shall we wear?" is the inquiry.

I have never visited a sister apiarist, and therefore can judge only from my own experience. When I began apiarian work, I had but 2 colonies, and it did not occur to me that any change in the dress was necessary, but as the number increased, it became apparent that some style,—safer and more convenient than the long dress, was desirable.

We manage, somehow, to keep house tolerably well under the same inconvenience, and even, in some mysterious way, to carry the baby and lamp up stairs at the same time without disaster, but for reasons not apparent, a comfortable and convenient attire for ladies engaged in outdoor employments seem to be regarded with general favor. Without stopping to ask why, in this case, and why not, in the other, we will thankfully accept our liberty and proceed to a consideration of the subject.—Besides the inconvenience of the long dress, the certainty of its becoming drabbled is another serious objection. It is often necessary to begin work before the dew is off the grass, or soon after a shower, and the long skirts becoming drabbled, are not only uncomfortable, but very unsightly; and if,

perchance, a friend curiously ventures near, to watch our movements, will we not secretly wish him away, and so feeling, fail to make the occasion one of pleasant interest to him. As no economical woman will allow a dress, fit to be worn in the house, to be thus ruinously used, it follows that the worst, wearable dress we have will be the one chosen for the apiary. To say nothing of the love of self-respect we must feel when so attired, it is not policy. A pursuit which necessitates shabby and untidy apparel is one which a refined woman will never engage in, if there is any other alternative; and such an attire worn by a successful apiarist would, at least, be extremely prejudicial to apiculture for women.

Thus far, we have taken a negative view of the subject, and now come to the question direct: "What shall we wear?"

I reply, a dress that can be made short or long at pleasure. This can be done by the rubber skirt lifter, so generally worn when trailing dresses were worn on the street; or by some simple device of our own, so constructed that the dress can be instantly raised or lowered. Those who have no objections to being seen in the short dress, will, of course, choose it; but as many have, it seems desirable to combine the two, both for convenience and appearance. The style of the dress may be varied to suit the taste of the wearer, but I recommend the "Gabrielle"—made just long enough to touch the floor, and belted at the waist.—The neck should be cut down in front about one-third the length of the waist, to admit of the veil being tucked in, as it is neither comfortable nor convenient directly under the chin. The under-waist can be made of the same, or other material, and fastened at the throat. The sleeves should be quite long, to allow free use of the arms, hemmed at the wrist, and rubber tape, or cord, run in; and these to be pulled down over the gauntlets of the rubber gloves. The pantalets should be similar to those worn in the old "bloomer costume"—straight and full, and like the sleeves, with rubber cord in the hem, and fastened over, not above, the tops of the shoes. The suit should be of washable material, and mixed colors, as a drop of honey on the dress has the appearance of grease, and is very conspicuous on a solid color.

One width of black tarlatan, ¾ of a yard long will make the best veil, and with rubber cord in the hem at the top, is adjustable to any hat.

One important item of a comfortable outfit, for the warmest days, I had nearly forgotten to mention; that is, the wet "head cap," precisely such as is worn by patients at water-cures. Even when working in the shade of trees, it is a relief, and in the sunshine, to me, it is almost indispensable.—Make it of toweling, of a coarse but smooth quality. Cut the top round, and about 4 inches in diameter. Take a strip lengthwise of the material, 3 or 4 inches wide when double, and just long enough to fit around the head; then sew up and gather the upper edges, and sew to the crown.—The whole being double, no raw edges need be exposed. Wet the head, and then put on the cap after wringing it out of cold water. This will make out-door work easy, even to beginners. Of course, it amounts simply to a wet cloth, but as it fits the head, is more convenient, besides covering a larger portion of it.

Whether or not the suit I have recommended should be trimmed is not a matter of necessity, and may properly be left to the option of the wearer; still, I can hardly refrain from making a suggestion in regard to it. It is one of the refinements of civilization to be always as well and appropriately dressed as circumstances will allow; and if the dress is trimmed, at least around the neck, and the under-waist worn with ruche, or collar and pin, the suit will not be less comfortable or convenient, and will look far better.

So dressed, there need be no fear of bees, and we may, without embarrassment, give a cordial welcome to callers in the apiary, or in the parlor. MRS. L. B. BAKER.

Wintering Bees.

READ BEFORE THE MICH. CONVENTION.

Bee-keepers are not agreed upon this subject. A majority of Michigan bee-keepers probably prefer the cellar, and consider it the best, as a winter repository. While friend Townley and others are firmly "wedded to their idol"—chaff.

I have had no experience with chaff; have five colonies in chaff this winter, as my first experiment with chaff. No doubt different methods of wintering may be successful. For several years, I used, as a winter repository, a house constructed with two walls of sawdust, each 8 inches thick, with an air space of 4 inches between, double doors, etc. Taking care to make it as near frost proof as possible without artificial heat, but I lost from 10 to 25 per cent. of my colonies each winter. In a long spell of severe freezing weather, the frost would get through; and yet, when I reflect that during those years there was a cider mill within one-half mile of my apiary, I look with less disfavor upon the sawdust house. In that, the bees would die inside the hive, and many upon the floor; several quarts each week, and towards spring, the amount increased to such an extent that upon setting them out, many colonies would be found so weak that it was impossible to build them up. I then gave out door wintering a trial, and the first winter thoroughly satisfied me of its uncertainty. It resulted in total destruction of my apiary, of about 100 colonies.

Beginning again, I tried the cellar, and have found that much to be preferred to the sawdust house, having succeeded thus far in wintering in my cellars, with a loss of less than 5 per cent. In the cellar the temperature can be controlled, during changeable weather in fall and spring, much better than in a building above the ground; the cool, stone wall aiding materially in maintaining an equal temperature. Also, frost can be more readily excluded than in a building without artificial heat. My cellar is ventilated by means of a 4 inch pipe, reaching within 8 inches of the bottom, in the center of that part occupied by the bees, and connecting with the stove-pipe, leading from the dining room stove. This ventilator is left open most of the time during the winter; and whenever there is a fire in the stove, there is a draft from the bee cellar,

and the air is thereby kept pure. Another tube, of like size, enters the cellar just under the house floor, from the woodshed.—This is used in lowering the temperature of the cellar, when too high. By these means, I can keep the temperature nearly to suit the bees.

Last winter they became uneasy when the murcury went above 42°, but this winter they are perfectly quiet with it at 46° to 50°. I also found that moisture gathered on the inside of the hive, unless the honey-board was raised so high as to be disagreeable to them; and I substituted quilts, made of cotton cloth and batting. One pound of cotton batting to each quilt; and find that these quilts allow the moisture to escape, and at the same time prevents any draft through the hive.

I got the quilt idea from A. I. Root, who, although inclined to give too much prominence and space to a *new* thing, yet, has given me more useful hints and practical aid than any other one, during the last few years.

In one of my cellars I am using quilts made of chaff, instead of cotton batting.

In my experimenting, thus far, I have been unable to winter without the loss of *some* bees from every hive; and I am a *little* skeptical when reading accounts of colonies wintering without losing but from "10 to 50 bees each." I wonder if it is not impossible to winter without some bees dying? Surely, there must be some old veterans, who would have been worn out had the honey season lasted but a few days longer. And, can they linger along for 5 or 6 months, and is it any advantage if they should?

I am wintering 5 hives in chaff, packed 6 inches thick on all sides, top and bottom. Can see no advantage over the cellar, as yet. My preference, at present, is a dry cellar, with water-lime bottom, ventilated so as to secure frequent change of air, quilts over frames to allow the escape of moisture.

The cellar must be kept *perfectly* dark, with the temperature at as near 50° fahr. as possible, and above that rather than below. I place white stick candy over frames of any colonies that I suspect are, or may become short of stores. Am using some candy this winter, made of one-sixth flour. 2 or 3 sticks, (pine is good), 6 or 8 inches long and 1 inch square should be laid over the frames, and under the cushions, to enable the bees to pass over the frames to the honey in outside frames; or in lieu of the sticks, holes should be made through the combs, near the center. I am inclined to prefer the entrances nearly closed, say about as is desirable in late fall and early spring. If the cellar is made in an occupied building, the frame work supporting the hives should not connect with the joints, as the constant jarring is to be avoided.

If a large number of colonies are being wintered in a cellar, it is well to remove the dead bees from the cellar bottom every week or two, to avoid the bad air caused by them. It is also advisable to take advantage of any warm weather in January or February, and set them on their summer stands and give them a good fly, and then return them to the cellar. This is said by some to be a severe task; two men will place 100 colonies on their stands and return them to the cellar, in a day. An expense of, say, 3 cents per hive.

I have given, in brief, an account of my method of wintering. There is nothing in it that will benefit most of you, but perhaps some beginners may glean therefrom some benefit; if so, I shall be well paid for the little time used. A. B. CHENEY.

Sparta, Mich., Dec. 12, 1877.

Creating a Demand for Honey.

READ BEFORE THE MICH. CONVENTION.

It has been well said that "he, who causes two blades of grass to grow where only one grew before, is a benefactor to his kind;" and equally true is it that he who causes 2 lbs. of honey to be consumed, where only 1 lb. was consumed before, "is a benefactor" to his fellow bee-keepers. The question of "supply and demand" is one of very much importance to all producers, and every man of business will do well to give this question careful study before embarking in any business enterprise. In most pursuits, success may be expected with much more certainty, if it is positive that there is a demand for the thing produced.

There are three general points that every producer should be familliar with, that he may make his business a success. They are:

1. That he should know how to produce, not only a *good* article, but the *very best* in his line.

2. In the absence of a demand, he should know how to create it; and where the demand already exists, he should know how to increase it.

3. He should always be ready to satisfy the demand.

On the first point it is unnecessary to dwell, since nearly every bee-keeper has become awakened to the fact that if he keeps bees at all, he must take pains to post himself concerning the matter of producing a first-class article of honey.

Very many, (though not all), have learned that if they would find sale for their honey, it must be made in small and neat packages, convenient, both for the retailer and the consumer.

The particular shape in which the honey should be stored, must be determined largely by the requirements of the market for which it is intended. Some very good suggestions on this point may be obtained from the report of the National Bee-keepers' Convention, held in October of this year; and no bee-keeper should fail to read this, if he has not already done so.

After a quality of honey is produced, which is both fascinating to the eye and pleasing to the taste, the next thing to look to is the market; and I believe this to be *the* point that most deserves our careful attention, for in no direction are bee-keepers so likely to make mistakes.

The question "how can we best dispose of our honey" should be constantly before our minds. 1. I answer, we should look near home; we should not fail to let our neighbors know what a fine quality of honey we are producing. Any one who has not tried this plan will be surprised on glancing over his books, at the end of the year, to see how much has been disposed of in his own neighborhood, without time or labor in transporting. Besides, there is no way in which public confidence can be

gained more rapidly. The neighbors, on seeing the honey in market, will say:—"That honey is very fine. I got some from head quarters, and I find it to be excellent."

Conversing with a member of this association, a year ago, on this subject, he remarked: "I will tell you what we can do with our honey, if we cannot find other market for it, we can load it into our wagons, and sell it to the farmers. The farmers have a remarkable taste for honey." I find this to be true. Many farmers come to me, with measures of different sizes, to get honey for their winter supply. Some say, that they find that extracted honey agrees with them so well; others think it so very nice to take with warm biscuits. Every bee-keeper should avail himself of the opportunity to dispose of extracted honey in this way.—There are many ways in which he may do this. He should ever be ready to show its superior qualities; give the method of extracting it from the comb, and explain wherein it differs from strained honey.—This requires some patience.

Sometimes customers remark: "Ah!—Strained honey." I say: "No sir; not *strained*, but *extracted* honey," showing them the difference. I find it a good plan to always have a little strained honey, so that the customer may see the difference for himself.

The farmer who keeps bees will find it to his advantage to trade honey for work, and other necessaries on the farm. Thus, when he goes to the blacksmith shop, he should see if his blacksmith does not wish extracted honey in exchange for work. He will, almost invariably; and soon the farmer will find the blacksmith in his debt instead of the reverse. The same is true with a good many others who depend on mechanical labor for a living. If they can pay for honey in work, they will feel able to furnish their table with it, while if they had to pay cash, they would feel too poor to afford it. There are a great many things that a farmer can trade for, in this way, that would cost him the cash, and at the same time work off his extracted honey. I have tried this repeatedly and find that it pays well.

Use every means to bring your honey to the notice of the people. I think it a plan well worth adopting, to put a few ounces of fine extracted honey in wide-necked bottles and distribute it gratis in your nearest market. I find it a very good plan to put it in the grocery stores to be sold on commission, describing to the grocer its real merits. In fact, give him something of a training, so that he may have a fair knowledge both of bees and honey. A man, to be a successful honey dealer, should have a knowledge of bee-keeping, take the BEE JOURNAL, be posted in regard to the honey crop, know how honey is made, and if there is really any chance for the bee-keeper to humbug customers.

In putting extracted honey on the market, the bee-keeper should control it. To do this, put a few, fine, sample bottles in the windows, and on the counters of the stores, where people may see and examine them.

It is best not to crowd too much upon the grocer at a time, but leave small quantities, with the understanding that if any candies it will be replaced by fresh bottles. I have tried this in Adrian, Northville, Plymouth and Detroit; and grocers say that almost invariably where a customer uses one bottle, he returns for the second, and thus, after the demand is created, it will increase; and the supply should be kept up through every month in the year. I find that our home demand has been quite good in every month, except April, in which maple syrup seems to takes its place.

The demand for comb honey is greater, and hence, so much skill is not necessary in marketing it. But even in this, many mistakes are made; one of the greatest arising from the undue anxiety of bee-keepers to make large consignments. This has been the cause of the low price of honey during the present season, while in reality there has been a scarcity of good honey. It has been shipped to the large cities, glutting the markets, while the smaller towns have been meagrely supplied. Last season, there was a large surplus in Detroit. The wholesale and commission houses were overstocked, which resulted in the honey being stored in damp places where it absorbed moisture and foul gasses, and in that condition it has, this fall, been offered to the public. In the month of October, I found, in Detroit, that fully half of the honey offered to the public was old, and invariably in bad condition. The honey had leaked over the boxes, and much had candied in the comb. One day, while passing the central market, I noticed two, of the four stalls selling honey, were retailing old honey, at 22 cts. I was informed, by the man selling it, that it was fine, white honey, and had I not known better, I might have believed him. So long as people are thus deceived, it is not strange that there is no greater demand for honey, for when a customer has a piece that resembles tallow more than honey, it will last him a year.

Amongst dealers some very erroneous ideas prevail that should be corrected. In Detroit they have a theory that the bee-keepers feed sugar, and the bees carry it up and store it in the boxes, which every bee-keeper knows can not be done with profit. Still, all the arguments I could produce would not convince to the contrary. They say, they know it is done; that bee-keepers come down from Sanilac and Lapeer counties and purchase sugar by the barrel, to feed their bees. I wish brother bee-keepers of these counties would clear this up. I think there is no work that this convention can do that will be of more importance to the fraternity than to devise some means for preventing honey from being kept over in the wholesale houses. It not only lessens the demand and lowers the price in Detroit and other large cities, but the local markets are effected in proportion.

The honey market, in every locality, can be greatly increased by building up a reputation for honey.

When I went to Northville, two years ago, one of the grocers there told me that he had sold over 300 lbs. the year before, and so far as I could learn, that was about the amount that had been used in the town and country around. But last year our home market required over 1,000 lbs., and this year, over 1,500 lbs.

This has been done in a town of only 1,000 inhabitants. If Detroit, and every other town in the state, would use honey at the same rate, I think there would be a demand for more bee-keepers, and we might always be sure of finding a ready market, and a

good price for every pound of honey produced. All that is necessary to bring this about is for every bee-keeper in Michigan to appoint himself a committee, to work up a good honey market at home, and see that that market is always kept well supplied, never seeking the metropolis until this has been done. W. L. PORTER.

Our Letter Box.

Madison, Ind., Jan. 16, 1878.

"This fall I put up 55 colonies in good condition, and so far, 8 of them have died from no apparent cause, their hives being well filled with honey."

ABIJAH WRIGHT.

Lynville, Iowa, Jan. 21, 1878.

"I put 164 colonies into the cellar to winter, but the weather has been so warm that I had to set them out in December. They are doing finely now." C. F. DILLEY.

Alhambra, Ill., Jan. 9, 1878.

"I could not consent to do without THE AMERICAN BEE JOURNAL. It is so valuable to me that I long for its arrival. I am only a beginner; commenced with 3 colonies, and now have 6 in good condition."

R. D. UTIGER.

Callaway Co., Mo., Jan. 8, 1878.

"I could not well get along without THE BEE JOURNAL. I commenced last spring with 8 colonies in box hives; transferred to Langstroth hives; increased to 26; and got 200 lbs. of extracted honey. I traded for 4, and now have 30. 12 of my weakest are packed in straw and fodder all around. In warm weather I take out the packing in front and let them have a fly."

R. S. TODD.

Jackson, Mich., Jan. 18, 1878.

"If natural combs are used for starters in sections, they should be cut to an even thickness, or they will not fit in a shipping crate. We do it thus: Cut the combs into strips the length of the section, then with a sharp, thin knife cut evenly to about ½ inch wide. We have used considerable of it, and it works to perfection. When we first used comb foundation, our honey was more regular than in the natural comb, but after shearing the latter, we could see no difference. The combs to cut up should be soft, or they will break or crumble up."

JOS. BUTLER.

East Saginaw, Mich., Dec. 15, 1877.

"I commenced in the spring with 20 colonies; increased to 76; sold 16 swarms, leaving 60 colonies in all. Making the account stand thus:

Received, for honey sold		$200 00
" " 16 swarms		67 00
Balance of increase, at $5		200 00
		$467 00
Paid for 10 queens	$10 00	
Stuff for boxes	12 80	
" glassed,	10 75	
Lumber for frames	5 80	
" " winter packing	7 00	
American Bee Journal & Gleanings	3 00	$49 35
Profits, net,		$417 65

L. C. WHITING.

Fountaintown, Ind., Jan. 19, 1878.

"I prepared my 10 colonies for winter on their summer stands, protected on the north, south and west sides. They have been flying lively, most of the time, thus far. I fear they will consume all their supplies, though they were well supplied when put up." GEORGE MUTH.

Henry, Ill., Jan. 10, 1878.

"I have 76 colonies in winter quarters; 70 in a cave, and 6 on their summer stands.—The month of December was very warm.—They got too warm and I was in a quandary whether to move them out or not; I never watched the thermometer so closely before. My plan before was to leave the doors open at night, and close them in the morning, to cool the cave and retain the coolness, but the thermometer stood the same at midnight as at mid-day, so I placed ice in the cave, in large cakes, and run the thermometer from 66 down to 50, which made them more quiet. I use the Langstroth hive; this year my bees have paid me "big" for my trouble. I was out on a bee hunt in December; found 2 trees; cut one and got about 100 lbs.; will let the other stand until spring and then transfer."

GEO. POINDEXTER.

Wisconsin, Dec. 31, 1877.

"Last spring I had 7 colonies and sold 2 of them for $12. I hired a man, who knew more about bees than I did, to transfer the other 5 into patent frame hives, of his own invention, paying him $5 for his patent right, and for the hives which I used during the summer, amounting, in all to $27. My 5 swarms increased to 11, 2 of which I sold for $12. Now the account stands thus:

Cr. By sale of 180 lb box honey at 20 cts.		$36 00
2 swarms bees sold, at $6		12 00
9 swarms bees on hand at $6		54 00
		$102 00
Dr. To 5 swarms in the spring, worth $6.	$30 00	
Transferring, patent right and hives	$27 00—	57 00
Balance profit		$45 00

Also:

Dr. To time and care.....$———

Cr. By honey used in the family.....$——

This, I think, would run the total product of honey up to about 250 lbs.

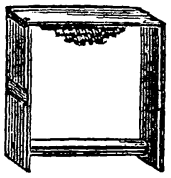
Our honey was extra good this year, being made in the early part of the season, from the white clover and basswood. My stocks are all strong and in good order this fall, and I still think it pays to keep bees."

JOHN RUSTICUS.

Shippingport, Pa., Dec. 22, 1877.

"I had 20 colonies last spring, in Harbison hives, and got 15 young swarms last summer, and had about 800 lbs. of comb honey. I have had 3 colonies of the bright yellow Italian bees, for 3 years, and have got but one drawer of honey from them yet. I have one box hive, (18 years old), that have been hybrids 3 or 4 years, that have made 7 drawers of 12 lbs. each, this summer, and swarmed once, the swarm filling 2 drawers and the box. We have had weather warm enough for bees to fly, for 3 weeks; the dandelions are in bloom like spring, and the bees working on them.—They have been eating their winter stores.

I would like to see a description of the Harbison sectional honey boxes in THE BEE JOURNAL. JAMES KNOWLES.



[This cut shows one of the Harbison or California Sections. The sides and top piece are 6¼ inches long and 1⅝ inches wide. The sides are 5-16 and top 3-16 thick. The bottom bar is ⅛ inch square nailed on the angle. The sides have a groove 1-16 inch deep, on the outside (as shown in the cut), to admit of a strip ½x1-16 inch to hold the sections together when on the hive.—ED.]

Dixon, Ill., Dec. 25, 1877.

"Two years ago I began with a wild swarm, in a box hive, which I caught on July 4th. They filled their box, and gave 25 lbs. of surplus that season. Last year it increased one. This year the two increased to six and gave me 100 lbs. of surplus. This spring I transferred to a frame hive and allowed one to have its own way. That swarm increased to 3 and gave 60 lbs. of honey. All are doing well."

B. F. PRATT.

Which variety of Mignonette is the best honey plant? What are the comparative merits of Melilot and the ordinary white clover? Will it pay to sow the former where the latter is abundant?

J. N. MCCOHN.

[We could see but little difference in varieties of Mignonette.

Melilot is excellent. Do not think it will pay to sow it where White Clover is plenty. Melilot is a biennial. White Clover an annual. The latter furnishes good hay and feed, so has two uses.—A. J. COOK.]

Milledgeville, Ill., Dec. 24, 1877.

DEAR EDITOR:—"Last season, we gave our bees a flight, one day in February, and then returned them to the cellar, where they were allowed to remain until about April 20, when they were placed on their summer stands, to remain for the season.—I allowed them to remain in winter quarters later than I have ever done before, and the result was very satisfactory. Our cold winds were all over, and the loss from exposure to spring winds was small. We found our hives heavy with honey and brood, and in the best possible condition to gather pollen and honey, which was then being produced by willows, soft maples, etc.—The yield of honey from fruit bloom was small, and so rapidly did our bees breed, that ere raspberries bloomed, most of our stock was short of honey. I supplied their wants by feeding them extracted, candied honey, at the entrance, feeding just before dark. It was really pleasing to see them come out and say "thank you," and then partake of refreshments, which were usually removed during the night. Raspberries, gooseberries, etc., yield a fair amount of honey. The yield from white clover was fair, but not extra. Basswood was a total failure; leaving us a small flow of honey from white clover, until the 2nd crop of red clover, which yielded a fair amount of honey; then followed wild flowers, yielding well, causing brood rearing to continue until the middle of October, giving us strong stocks, with which to go into winter quarters. Our bees were placed in the cellar, Nov. 17, in good condition. At the opening of the season we had 40 stocks; at the close, 60; sold 16 queens, and 2 colonies. Surplus comb honey, 900 lbs; surplus extracted honey, 400 lbs. We have had Italian bees since 1867. Success to the AMERICAN BEE JOURNAL."

F. A. SNELL.

Madison, Ind., Jan. 7, 1878.

"Can you tell me what is the matter with the bees? They are dying, leaving plenty of honey in the hive. There are several bee-keepers in this county that have lost heavily; and they cannot account for it.—The season has not been cold here; indeed, we had a very pleasant winter up to the 1st inst. My bees have done finely, so far. I examined them on Christmas day, and they were in good condition." H. C. WHITE.

[Of course not, with so few data. Symptoms and kind of season should be given. It may be foul brood; may be all old bees; may be bad honey.—A. J. COOK.]

Dorset, N. Y., Jan. 12, 1878.

"I have kept bees in the old-fashioned way for some years; for the last two years, I have adopted the Langstroth hive, two stories, and got an extractor and have been trying to post myself in the science of bee management. I had 18 colonies last spring, in box hives, that were strong; and 20 lbs. of surplus was all that the best of them gave, while my best colonies in Langstroth hives gave 150 lbs., and black bees at that. When I tell my neighbors about taking 150 lbs. from a hive, it makes them stare, but still they can't afford to take the BEE JOURNAL." A. S. SHELDON.

Monroe, Wis., Jan. 4, 1878.

"At the close of the honey season, my bees began to rob, and each seemed to try to rob the other. I lost one weak swarm, and have 8 swarms in fair condition for wintering. During the warm days, the last of December, I set them out on their summer stands; they flew vigorously, but immediately commenced robbing again. How can I prevent them from it? Will they forget it by spring? E. C. GILLETT.

[Contract the entrances so that but one bee can pass at a time. Italians, if strong, always defend their stores successfully.—ED.]

Memphis, Ky., Jan. 20, 1878.

"Three years ago I began with 2 swarms in box hives; increased to 6; lost 2 in spring. That year I increased to 8 and lost 1, queenless. The past year I increased to 17; all are now in good order in their summer stands."

JAMES NEEDHAM.

Indianapolis, Ind., Jan. 1, 1878.

"I have 37 colonies wintering in and out of doors. They are wintering well. I have a good pasture of melilot clover, and about 40 acres of alsike. I find no trouble to sell all the honey I can get. I have kept bees for 55 years, and have not for 45 years been out of honey, and never sold a pound that was not pure. I am glad the JOURNAL got into such good hands. I prize it very highly." W. A. SCHOFIELD.

Henry, Ill., Jan. 8, 1878.

"I have 40 colonies prepared for winter, on their summer stands, with quilts and chaff on the top, under the cap. I never tried wintering in the cellar till last winter, and that was not a success. In the cellar I lost 4 out of 8; out of 30 on their summer stands I lost but 1, and got 2 queenless. I got about 1,500 lbs. of comb honey. I use 4 lb. boxes and sections. I got about as much honey in the sections as by extracting.—We had no honey after Aug. 1st."

JOHN ROBERTS.

Appleton, Wis., Dec. 27, 1877.

"A backward spring and an early drouth cut short our honey crop. In a few localities there were considerable comb honey and increase of stocks, but in our vicinity hardly any increase. We run 60 colonies for the extractor, and about 40 for comb-honey, and got 5,000 lbs. of extracted, and only about 400 lbs. of imperfectly filled combs. Our fall crop was light, although there was quite an amount of buckwheat.—Sickness prevented my giving them the attention I should have, but on Dec. 1st. they were all in good condition."

A. H. HART.

Ripon, Wis., Dec. 17, 1877.

"Our bees went into winter quarters strong, with plenty of honey. Honey is slow sale, and prices low here; small boxes of pure basswood and clover bring only 12 and 15 cts. per lb. The market for good honey is kept down by forcing the poor grades on the shop-keepers at any price; so few people are judges of honey, that our best grades of honey will take its chances with the poorest kind of buckwheat. At present, our part of the state is over-stocked with bees, but old bee-keepers have found that hard winters and poor summers will soon change this state of things."

R. DART.

Independence, Mo., Dec. 22, 1877.

"Bees have not done well in this section. We had too much wet weather through the summer. Linn blossomed very full, but did not yield any honey. Our surplus was all gathered from white clover and spanish needle. I had 18 colonies in the spring, (12 in fair condition, and 6 very weak). I let a neighbor run them on shares; he doubled them, and got 1,300 lbs. of surplus honey; (250 lbs. of extracted, the balance in small boxes), and all the hives are very heavy.—We have about 600 colonies in this town.—The advent of Baldwin Bros. to this place, 3 years ago, gave the bee business a new life. Prior to that, bee men used the "log gum," and told us about "the king bee," but we are progressing. Now, almost all are using improved hives and have Italian queens." C. M. CRANDALL.

Lodi, Wis, Jan.. 11, 1878.

"I have 31 good colonies in Langstroth hives and winter in cellar. J. M. PRUYN.

Dundee, Ill., Jan. 7, 1878.

"The binder was duly received. It is indeed a very desirable article. I now have my last year's JOURNALS nicely bound. I prepared my bees for winter on Thanksgiving day, and have 19 strong colonies, with plenty of honey in the cellar. The temperature is about 45 degrees. We hope they will come out all right in the spring."

FAYETTE PERRY.

Lawson, Mo., Dec. 10, 1877.

"Last spring I had 75 colonies in fair condition; increased to 105; extracted 5,000 lbs., and got 1,200 lbs. of box and frame honey. Hives are all full of golden-rod honey to winter on. I have 2,000 lbs. of extracted honey on hand, yet, that I would like to get 15 cts. per lb. for. This is my first trial with Italians, and I don't like them to extract from, as they are too hard to brush off the combs. I bought an Italian queen from T. G. McGaw, Monmouth, Ill., and raised some 25 queens from her. She gave good satisfaction. My bees gathered most of their honey from white clover and golden-rod. I am wintering my bees on their summer stands. Success to THE AMERICAN BEE JOURNAL."

J. L. SMITH.

Boone Co., Ky., Dec. 31, 1877.

"The weather has continued warmer for a longer period than we ever saw it in winter. My 50 colonies seem to be wintering perfectly. If the business increases everywhere as it does in Boone Co., the sugar panic will be eclipsed shortly. The bee-keeper, who does not take the AMERICAN BEE JOURNAL neglects his own interests sadly. I am always anxious to get it, to see what the "big boys" are doing, and to keep up with the fraternity generally. I have read my back volumes often, and yet they are *so* useful for reference that I would not part with them for twice their cost. I like to see a friendly and brotherly spirit among bee-keepers, and honor and credit given to whom it is due. How shameful for a would-be-somebody to hop up at the tail end of a convention and attempt to deny an honorable and true veteran of his well-earned laurels. Success to the AMERICAN BEE JOURNAL." JNO. T. CONNLEY.

Freeman, Mo., Jan. 1, 1878.

"The honey harvest in this locality has been about one-fourth of a crop—the spring being too cold and wet. In June, I had to feed some, until basswood bloomed. I have had about 3,000 lbs. of honey. About half each, of extracted and comb. I have sold extracted honey at 15 cts. and comb honey at 20 cts. per lb. I have 148 colonies in good condition for winter, on their summer stands, with flax straw packed around them; two stakes driven into the ground each side, 6 inches from the hives, also on the back, with thin pieces of boards put between the hives and stakes, then the flax straw packed in, the front being left open. The hives are in rows, 6 feet apart each way, fronts to the south. My reserved queens I keep in a room when cold, and when warm, I carry them out to cleanse them." PAUL DUNKEN.

Lincoln, Mo., Dec. 28, 1877.

"Our honey season commenced in August. We extracted 6 bbls, had 600 lbs. of box honey, and then enough to winter on. It is warm and raining, and I think bees are eating more honey than usual."

MRS. J. W. DICK.

Knoxville, Iowa, Dec. 17, 1877.

"The past season was a poor one. My bees did not swarm, but I divided two that stored enough to last them over winter. I received a beautiful Italian queen from J. Oatman & Co. I am wintering my bees on their summer stands. The weather is warm, and my bees have had a fly every day this week." J. W. BITTENBENDER.

Erie Co., Pa., Dec. 25, 1877.

"Our bees have done poorly the past season. They wintered in good condition. 70 colonies increased to 125; new swarms were all large at time of swarming, but did not fill up hives as usual, and made very little box honey. Have sold about 800 lbs., realizing from 16 to 20 cts. per lb. We use the black bees, partially hybridized, have no extractor, and permit natural swarming.—The season has been so discouraging that we intend to turn over a new leaf, by adopting the plan given by Herbert A. Burch the coming season. We have no expert beemen in this county from which to learn, so I am reading up as best I can."

D. VIDETO.

Jersey Co., Ill., Dec. 29, 1877.

"Bees have not done very well here, this year. It was too wet and cold during fruit and white clover bloom; that being our principal source of supply for surplus honey. I made an average of 52 lbs. of surplus, per hive, and increased 100 per cent.—Have gone into winter quarters with each hive in good condition. I winter on summer stands. I use Armstrong's Centennial Hive, and think it the best hive I ever saw, for all purposes. I think the Bingham smoker ahead of anything in the smoker line. I experimented some with comb-foundation this summer, and think it a success. I could not think of doing without the JOURNAL." H. D. EDWARDS.

Mears, Ocean Co., Mich, Dec. 19, 1877.

"It seems to me that bee raisers, when they give their yield of honey, would do well to give the size of hive, depth of frame, side or top storing, etc., give the name of their town, county and state. It would have a tendency to settle on a standard hive and frame. I think I hear some say that there would be too many letters to answer. Do not pay any attention to them unless they have a quarter enclosed. I always throw in a 25c. scrip, and have never failed of getting an answer yet. I have 250 swarms, (Italians and hybrids), in two different cellars. My cellars have two rooms each. I think they are better,—keeps them cooler in warm weather, and warmer in cold weather. Expect to keep them in one of the cellars until May 1st. If they loose 1 pint of bees each, through April, they will lose more than that out doors; besides, they will have more honey left to go through the long, cold rains of May. I do not want any swarms before June 5th, rather have them on the 10th."

E. STANHOPE.

St. Clair Co., Ill., Dec., 27, 1877.

"I had 53 colonies in good condition in May, of last year; now I have 76. Some of them I expect to have to feed before spring, unless the weather is exceedingly favorable. White clover was plenty, but yielded no honey after June 1st. The surplus that I got was from honey dew, and though dark, I retailed it for 25 cts. per lb., or 5 lbs. for $1. I only got 200 lbs. of extracted, and 30 lbs. of comb honey. I do not think a pound of comb was built this season. I got about enough fall honey to keep them breeding and give them stores for winter."

C. T. SMITH.

Smith's Grove, Ky., Dec. 7, 1877.

"I commenced the past season with 40 colonies, having reduced my number by letting 20 die during winter, also by sale of some. I got about 1,200 lbs.—almost equal quantities of extracted and box honey. I made 20 artificial swarms, and had 4 swarm naturally. I doubled my nucleis and balanced the stores of my bees in November, and filled the top story with dry leaves.—They seem to be doing well on their summer stands." N. P. ALLEN.

Steele Co., Minn., Dec. 24, 1877.

"The past season was good. I had 19 colonies in an out-door cellar. All came through in good condition. One was queenless. I got 3,000 lbs. of honey, (800 lbs. being comb honey), and increased to 47 colonies. I have sold nearly all my honey in this neighborhood. I began 2 years ago with 8 colonies. That season I got 800 lbs. of honey, and sold it for $38. I have moved my bees to Casswood, 5 miles away, every year. This year I am building a house at Medford, which is surrounded with fine basswood timber. I have 26 stocks in my cellar there, and 21 stocks here. This cellar and house I am building expressly for my bees, and am letting them furnish the capital. The location, house and all will cost upwards of $500. I would not change cold Minnesota for a place in California. We can get about as much honey per stock, and save so much transportation. Honey will be one of the cheapest of sweets in Minn. if we continue to have good success. I am satisfied we must take large quantities and sell cheap, to make a perminent business.—My aim is to get all to use honey, and if cheap enough, we can succeed. People will not use as much of other sweets if they use honey; in this we shall gain an important step, by educating the people that large quantities of honey can be taken from the bees cheaper than it can be made by man from any stuff; that it will granulate; and that there is a difference in kinds; that if you extract basswood honey in a neighborhood where there is no basswood, and where the extractor has never been used, they will say that it is not honey at all, because it does not look like their buckwheat comb honey, etc. Honey peddlers, of course, understand the situation; all of this can and must be overcome, in order to make bee-culture a success. Let every one work up a home market, and if a brother bee-keeper happens to work over on your ground, (as one did on my field), do not be discouraged, but pay him back as I did, for I found his ground as good selling ground as I presume he did mine. Both had been worked up." J. E. CADY.

Ligonier, Pa. Dec. 20, 1877.
"I have 34 colonies in good condition to winter. 25 of them are Italians."
WM. ASHCOM.

Marshall, Texas, Jan. 3, 1878.
"Friend Newman: I congratulate you on the conduct of THE BEE JOURNAL. I consider the last year's numbers far in advance of any of its predecessors."
W. K. MARSHALL.

Carthage, Ind., Dec. 25, 1877.
"Last spring I had 70 colonies and bought 21 late in the season, in Tenn. Got 8,645 lbs of extracted dark honey, and 2400 lbs from my home apiary; in all 11,045 lbs; have sold about one-half of it at 15 cents, net."
P. W. MCFATRIDGE.

Dowagiac, Mich., Jan. 5, 1878.
"Our bees are wintering, both out and in doors very nicely so far,—if we can call it winter. It is 32° above zero, night and day, and no frost till within a day or two. Now the snow is 8 inches deep, and it is 4° below zero." JAMES HEDDON.

Lavansville, Pa., Dec. 29, 1877.
"I have now wintered some in-doors, and some out, for 4 seasons, without losing a single colony, and I am satisfied that I am master of the situation." H. H. FLICK.

[Let the *master* then have the floor, while we all give close attention. We are all willing to learn "how to do it."—ED.]

Eagle Lake, Minn., Jan. 4, 1878.
"I had 20 good, and 14 weak colonies in the spring—probably enough to make 25 good colonies in all. I have obtained 2,700 lbs. of honey, and have 108 colonies in the cellar, after having sold 4. My bees have 25 lbs. of honey to the hive, on an average. They are all Italian but 1—and that is a Cyprian." H. A. SIMONDS.

Columbus, Kansas, Jan. 3, 1878.
"I invented and made the so-called White Honey Extractor, in 1874. My revolving can is 18x20 inches, and will hold any frame from the Langstroth, down. I use wire cloth for strainers, instead of perforated tin. It is the only extractor that I have ever seen. Its whole cost was less than $5. I commenced keeping bees in 1874; during the first season, I took 400 lbs. of extracted honey; in 1875, 950; in 1876, 2,200; and in 1877, 4,000 lbs. I find a home market for my honey, at 15 and 20 cts. I have now 106 colonies of bees, mostly Italian, in good condition, aud on summer stands."
H. SCOVELL.

San Diego, Cal., Dec. 25, 1877.
"The past season, so far as surplus honey is concerned, was a complete failure in this State. The present, beginning with the middle of last month, is to date, as good as could be wished; bees beginning to gather a little honey from manzaneta, a shrub of this coast. In two weeks, flowers will be abundant, though we cannot reasonably expect so large a yield as that of 1866, because the bees generally are not in as good a condition; a number of colonies having died during the past summer."
ROBERT CAMPBELL.

Hennepin, Ill., Dec. 31, 1877.
"I have 225 colonies. The latter part of our season was good for honey. My hives are 10 inches deep and 14 inches long, with 8 frames. I examined my bees Dec. 24, and found on an average 50 lbs. of honey all through. The next cold spell, I will set my bees in the cellar until April 1, 1878. I have shipped, this season, 1437 3 lb. boxes of honey; selling them at from 14 to 17 cts. per pound in Chicago. I kept bees 10 years in Germany, in the Dzierzon hives, and 19 years in this country." JOHN LEHMAN.

Todd Co., Minn., Dec. 21, 1877.
"If the Javan bee, *Apis dorsata*, is as large as reported, it would be a very valuable addition to our bee family. Mr. Cori says that the Javan bee is large enough to gather honey from red clover. It is well known that the red clover is one of the richest honey plants in the country, and that the honey is of an excellent flavor and color. I believe there is spare cash and enterprise enough, among the bee-keepers of this country, to import the Javan bee direct from Java. Will not those who have been importing bees and queens, give their views through the AMERICAN BEE JOURNAL on the practicability and probable cost of importing bees and queens direct from Java?" A. J. HANEY.

Nelson, Pa., Dec. 25, 1877.
"I am busy extracting honey.—(How is that for Christmas?) I transfer the combs from box hives, which were "taken up" last fall, and have been in my shop ever since. I let them stand exposed to the warm air for 12 to 24 hours, and then extract them with the transferring slats on, and put the combs away for use next summer. The honey comes out very well after the combs have stood in a warm room for 24 hours, but without that, it will scarcely come out at all; it is very thick. I wish you would give through the JOURNAL the correct pronunciation, definition, and derivation of the word "parthenogenesis." I have been familiar with the word for years, but never having heard it pronounced, I do not know whether I pronounce it correctly or not, and I presume there are many others among your subscribers who are in the same fix.

I am well pleased with the "Dzierzon Theory." It is just what all beginners need, and probably a great many who are not beginners. Accept my best wishes for success." JNO. ATKINSON.

["Par-the-no-gene-sis."—In the first sylable give the *a* the same sound as in *far*.—The 4th sylable pronounce as though spelled thus: *jinee*—give the last *e* the long sound—aud you have the word. It means the production of offspring by the female, without intercourse with a male. It is derived from two Greek words, literally meaning "a virgin production." Minerva (a virgin of ancient mythology) was the goddess of wisdom, war, and the liberal arts; and the celebrated "Temple of Minerva," at Athens, was called the "*Parthenon*"—Temple of a Virgin.

Pronounce Dzierzon, *Dzeert-sohn*.—ED.]

American Bee Journal.

TERMS OF SUBSCRIPTION.

Single subscriber, one year, ... $2.00
Two subscribers, sent at the same time... 3.50
Three " " " " " ... 5.00
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All larger clubs at the same rate.

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Write names and addresses plain—giving County and State.

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We send the JOURNAL until an order for discontinuance is received at this office, and arrearages are all paid.

We will give Hill's work on "Chicken Cholera" (price 50 cents), to any one desiring it, as a premium for two subscribers.

☞ Subscribers will please notice the date upon their subscription labels and see that they are "up with the times."

Additions can be made to clubs at any time, at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application.

☞ When you have a leisure hour of evening, why not drop in on a neighboring family and see if you cannot get a subscriber for THE AMERICAN BEE JOURNAL?

☞ For the convenience of bee-keepers, we have made arrangements to supply, at the lowest market prices, Imported or tested Italian Queens, full colonies, Langstroth or other hives, Extractors of all the makes, and anything required about the apiary.

☞ The only *safe* way to send money by mail is to get the letter registered, or procure a money order or draft. We cannot be responsible for money lost, unless these precautions are taken. Then it is at our risk, and if lost we will make it good to the sender, but not otherwise.

We will send a tested Italian queen to any one sending us four subscribers to THE AMERICAN BEE JOURNAL with $8.00. This premium, giving a good queen for four subscribers, will pay any one for taking some trouble to extend the circulation of the JOURNAL. Premium queens will in every case be tested.

North Eastern Bee-Keepers' Ass'n.

The North-Eastern Bee-Keepers' Association will hold its Annual Meeting at the City Hall, Syracuse, N. Y., on the 6th, 7th and 8th of February, 1878. First session at 1 o'clock, P. M., of the 6th.

Papers on important subjects are expected from some of our own members, as well as from eminent apiarists abroad. Among those may be mentioned an essay on "Recently Discovered Parasites of the Honey Bee, and their Connection with Successful Wintering."

The Marketing of Honey will receive special attention, and it is expected that initiatory steps will be taken toward supplying each member of the Association with reliable data of much importance to honey producers. To secure satisfactory results, a full attendance of this class is especially desired. P. H. ELWOOD, Pres't.
J. H. NELLIS, Sec'y.

☞ Strangers wishing to visit our Office and Museum of Implements for the Apiary should take the Madison street-cars, (going west). They pass our door.

☞ On page 9, of January No., Will M. Kellogg's letter gave the location of an apiary at Benton Bay, Miss. It is a location on the Mississippi river four miles north of Oquawka, Ills. The error occurred by our printer omitting the word, "River."

☞We are asked why we do not put a notice under our advertising pages, asking our readers, when giving an order, to state that they saw the advertisement in THE AMERICAN BEE JOURNAL. There is no necessity for it, as not one of our advertisers is dissatisfied as to the amount of benefit derived from his advertisement; indeed the benefit is so perceptible that there cannot be any doubt upon the subject.

HOW TO WINTER.—Those who wish to post up on the subject of wintering, will do well to read Prof. Cook's essay as read before the National Convention of last year.—It was published in the December number of 1876, and has since been re-published in pamphlet form, with the other essays.—Price 15 cents.

We have gotten up a "Constitution and By-laws," suitable for local Associations, which we can supply with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 is ordered, they will have a blank left for writing in the name of the association, etc. A sample copy will be sent for a 3c. postage stamp.

☞ Many complain of the dearth of small currency, all over the country. In reply to correspondents, we will say that *Postage Stamps*, of any denomination, can be obtained at every country post-office; and we will receive 1, 2 or 3 cent stamps for anything desired from this office.

A False Rumor.

Some evil-disposed persons, it seems, have reported Thurber & Co., of New York, in financial difficulty. As bee-keepers are interested in the soundness of this firm, we give the following article from the *New York Tribune* of Jan. 22, concerning these false reports:

Reports have been in circulation in Wall St., that two prominent grocery houses were financially embarrassed. Yesterday it was rumored that the paper of H. K. & F. B. Thurber & Co., had gone to protest.—Inquiry was made of H. K. Thurber last evening in regard to the matter. He denied in most emphatic tones all rumors detrimental to the credit of his firm. He said:

We keep only one bank account, and that is with the Importers' and Traders' Bank, where I am a stockholder and director. For a week, or more, unfavorable stories have been circulated concerning our financial standing, evidently originating on Wall Street, where there are stock-jobbers, who are trying to create a panic. On Monday, the names of several large grocery houses were coupled with ours, as about to fail. Our firm is abundantly able to meet all its obligations, dollar for dollar, inside of 20 days. The fact is, that instead of being in trouble, we have been discounting our thirty-day bills—particularly sugar accounts. On Thursday, we checked out in this way, $60,000; on Saturday, nearly $80,000; and on Monday, when the stock-jobbers were trying to put us among the broken firms, we discounted current accounts for over $22,00. None of these accounts fall due until February 15, but having more money in the bank than we require, we made the discount. We have not failed, and we are not in trouble in any way; and if all the other houses in the grocery trade should become embarrassed, the firm of H. K. & F. B. Thurber & Co. would still be transacting business as usual.

James Buell, President of the Importers' and Traders' Bank, said that "he had so much confidence in the soundness of Thurber & Co., that he would discount their paper at 7 per cent., to the amount of $100,000. He stated that H. K. Thurber was worth, at least, $1,500,000, and the credit of the firm, of which he was the head, was as good as that of any firm in the country."

E. H. Perkins, jr., Cashier of the Importers' and Traders' bank, said in regard to H. K. & F. B. Thurber & Co.: "For the past 5 or 6 years I have seen their balance sheet, and it always indicated gains of at least $100,000. The monthly sales of the house I know to be over $1,000,000, and the Thurbers have always been noted among grocery men for their short credit system, which has prevented them from incurring any long debts. Besides this, the Thurbers work on a solid foundation, their available assets being, at the very least, $1,500,000.—They always have a considerable sum deposited with us, but I do not know exactly how much there is at present."

☞ A CARD.—The last season's trial of Bingham's smoker has demonstrated that it was not only *new* but *useful*. The U. S. Patent Office has reported the same, and granted a patent. Being the *legal* maker of the *direct draft* improvement in smokers, and having received the most flattering reports from all, every effort will be made to keep its merits in workmanship up to its usefulness as an implement in the management of bees. Thanking all my friends for their *kind words* and *consideration*, I remain, &c., T. F. BINGHAM.

Abronia, Allegan Co., Mich., Jan. 21, 1878.

Honey Markets.

NEW YORK.—We quote as follows:

HONEY.—Fancy caps, in neat crates, of prime, well-filled combs, white honey, is scarce, and continues in good demand; selling all the way from 20 to 22c. per lb. White honey, in irregular caps and crates, 15 to 20c. Buckwheat, and dark grades, 8 to 12c. Strained honey, in bbls. and firkins, 8 to 12c. per lb. Our quotations are based upon actual sales, during the past month, and we certainly do not wish to be understood as being able to make the prices for the month of February.

There has recently been made, large consignments of dark honey, to this market, and prices have been very much depressed by forced sales. Consequently, we do not wish to encourage shipments of dark honey.

BEESWAX.—Rather dull sales. Quotations, 27½ to 28½c. per lb.

H. K. & F. B. THURBER & Co.

CHICAGO.—We quote as follows:

HONEY.—Prices easy, and range as follows:—Choice white comb, 15 @ 16 per lb; inferior to fair, 10 @ 13c. per lb.

BEESWAX.—Prices nominal, at 24 to 26 per lb for bright yellow, and 15 to 20c. for common to fair.

CINCINNATI.—Quotations by C. F. Muth. Comb honey, in small boxes, 15@20c. Extracted, 1 lb. jars, in shipping order, per doz., $2.50; per gross, $28.00. 2 lb. jars, per doz., $4.50; per gross, $50.00.

It must be understood, that goods realize these prices in our market. I buy for cash—not on consignments. I have been paying this season, for choice white clover extracted honey, in bulk, 10c, and 7@8c for Southern, buckwheat, basswood, and dark honey. For choice comb honey, in boxes, I have been paying 16c net; for darker grades proportionately less.

SAN FRANCISCO.—We quote: 10@18 c.

SAN FRANCISCO, Jan. 14, 1878.—We have no change to note in prices. Have had fine rains in the bee counties, enough to insure a living for the bees and a surplus of honey. STEARNS & SMITH.

LOUISVILLE.—Quotations by B. B. Barnum.—I will pay for choice, light, extracted honey 8@10c.; for white comb 12½@15c., in small boxes.

☞ Anyone wishing information concerning the ability of Geo. W. Merryatt, of Milton, Wis., (of late near Hebron, Wis.) as a bee-keeper, can obtain it, of those who know him well, upon application at this office.

☞ We have recently received some Russian Sunflower Seed, from E. R. Billings, which he advertises elsewhere in this issue, as a good honey-producer. The seed is very fine.

☞ The Report of the Michigan Agricultural College apiary, for 1877, is crowded out of this issue. It is long but quite interesting, and will appear in our next.

☞ Seeds or samples of merchandise can be mailed for 1 c. per ounce. Printed matter 1 cent for every *two* ounces. *Don't send us any small packages by express, that can be sent by mail.* Express companies have no souls.

☞ In addition to all those who have renewed their subscriptions during the past month—and they are not a few—we have averaged ten *new* subscribers every day since the New Year—thanks to our staunch friends.

THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XIV. CHICAGO, ILLINOIS, MARCH, 1878. No. 3.

Contents of this Number.

EDITOR'S TABLE:
Editorial Items....63 to 68
Curious History of the Oil-Beetle.... 65
Crystal Honey Fraud.... 66
Letter from Bohemia, Austria.... 67
Honey Prospects in California.... 67
The Roberts Hive.... 67
The Smoker Question.... 68
Revival in Apiculture.... 68
Sending Queens by Mail.... 68
Division Boards.... 99

SOUTHERN NOTES:
Sketches from Tennessee.... 69
Muth's Shipping Crate.... 69

CORRESPONDENCE:
Trouble.... 70
Patents and Smokers.... 71
Hard Times.... 71
Honey, the Supply and Demand.... 73
Spring Dwindling of Italians.... 74
Bibulous Bees.... 74
Say—Open Letter to R. M. Argo.... 75
Springing Bees.... 75
An Amusing Incident.... 76
Artificial Swarming.... 76
Michigan College Apiary.... 77
Chips from Sweet Home.... 81
Experience of a Beginner.... 81
Glucose, or Grape Sugar.... 82

CONVENTIONS:
Honey Plants.... 83
Scientific Bee Culture.... 85
Good Queens—How to Get Them.... 86
North-Eastern Convention Report.... 89
Comb Foundation in Surplus Boxes.... 87
Over-Stocking.... 88
Grape Sugar for Feeding.... 90
How to Promote Easy Breeding.... 90
Our Object and Our Mission.... 91
President Elwood's Annual Address.... 92
Comb Foundation—Doolittle's Report.... 93

FOREIGN NOTES:
Sundry Items....95, 96
Baron Von Berlepsch.... 95
Paris Exposition.... 96
Colonies of Bees, without Hives—Experiments 96
Apis Dorsata.... 96

OUR LETTER BOX:
Sundry Letters....97 to 99

Editor's Table.

☞ Friend Argo (just as we are ready for the press) wants us to insert a letter—but as we cannot find room, at this late date, we will give the gist of it. He has received a host of letters, and neither he, his wife or neighbors could read the signatures to many of the letters. Let every one write names, post office and state plainly.—It will save very great annoyance to those receiving the letters.

☞ We regret to learn that friend R. R. Murphy, of Garden Plain, Ill., lost his beloved wife on Jan. 30, after a long and painful illness. The AMERICAN BEE JOURNAL extends its condolence to the bereaved brother.

☞ To save confusion and disappointment let all who intend to buy hives, honey-boxes, crates, &c., order early. Manufacturers complain of the rush just before swarming season. A little foresight in this will save disappointment and ill-feeling.

☞ Four government vessels are to be dispatched to France with full loads of American "truck" for the Paris exposition. All the space allowed to the United States has been already assigned by the chief commissioner, but the applications are still numerous. American apiculture will be meagerly represented.

☞ A swarm of bees were recently discovered under the eaves of the Congregational Church in Boscawen, N.H., and with 69 lbs. of honey taken from their hiding-place a festival was held which brought the church a large sum.

☞ Friend Palmer has sent one of his double Langstroth hives to our Museum.—Such were recommended by Mr. L. in 1867. Friend Palmer uses them and speaks much to their praise. They are nearly the same as the single, with two entrances and porticos, and more box room. We have known friend Palmer for many years, and as he advertises a new Raspberry in this issue, would say that he is entirely responsible and honorable in his dealings.

☞ Cincinnati has a Poultry and Pet Stock Association. It was organized on February the 14, with the following object: To encourage and promote improvement in the Breeding and Management of Poultry, Pigeons, Bees, Game, and Pet Animals, by means of exhibitions and the collecting and disseminating of reliable and practical information relating thereto. Armin Tenner, is its Secretary.

☞ In *Gleanings* for Feb, Novice states that Wm. Hoge received an order from England (with $100) for comb foundation, and neither filled the order nor refunded the money. In reply to an inquiry, Mr. H. says he received but *one* order from Europe for foundation, and that was duly filled—but the amount was only $5.00. So there is a misunderstanding some where. Novice should either *prove* the charge made so publicly or take it back.

Mr. Hoge took hold of comb foundation when the Weiss machine was idle, and laid by as a useless thing. He worked hard to introduce it, and spent time and money in the endeavor—never receiving enough to reimburse him. Now, others are reaping where he has sown. The panic was too much for him, as it was for thousands of others. He is now working on a salary and devotes a regular sum from it to pay up old scores. When in New York, last fall, he informed us that he would soon be square with the world again. This is as honest and praise-worthy as the statements of Novice are unjust and ungenerous.—Those who are endeavoring to do right in these trying times should receive encouragement—not kicks.

John Long is Mr. Hoge's father-in-law.—He fully approved of the latter doing business in his name, as "agent;" which was printed on their stationary at the time. On our desk is a private letter from Mr. Long, which proves what we state. Two years since, we mentioned Mr. Hoge as "*alias* John Long," supposing it to be correct.—Finding it an error, we cheerfully make the correction, without solicitation on the part of Mr. H. or his friends. Novice will also, of course, make the *amende honorable*.—He evidently took a curent report as a fact, without proof, as we did.

☞ On page 33 of the February No., we said:

"Those who *use* an infringment of a patented article, are liable to the law, as well as the manufacturer and the vendor of such articles. All should therefore be careful, and not "burn their fingers" by purchasing or using an infringment. Better to throw them into the fire than get into trouble about such a small matter."

Some have interpreted this to mean, that we advised all having Novice's Smokers to burn them up. By reading the paragraph again, we think *all* can see our meaning—that it would be better to burn the article than "burn your fingers" in a law-suit.

ADULTERATION OF HONEY. — A California paper has the following item:

Assemblyman Waters of San Bernardino, Cal., has introduced a bill into the Legislature, amending the Penal Code by adding a new section concerning the sale of spurious honey. Every person who either sells, exposes or offers for sale, any artificial or spurious honey, as and for genuine or pure honey, is guilty of a misdemeanor.

Such a law should be in force in every State in the Union. Adulterators have no rights that honest men should be asked to respect. Set the ball in motion in every State and Territory.

☞ Friend Muth has sent us one of his Shipping Crates for comb honey. It is 14½ x16½ inches, and 12 inches deep, outside, and is substantial, neat and cheap. It holds 4 cases, each containing 8 small frames, 5½x6 inches, outside. Friend M. says they can be furnished for $18 per 100, ready to nail. The cases are intended to be placed on the top of the frames—two of them just filling the width of a Langstroth hive, but they are 4 inches short, the other way,—though they could be made long enough to fill, if the length, 19⅛ inches, would not be objectionable. We must say that we prefer the Prize Crate, which holds a dozen boxes or frames, as desired, and is of convenient size every way. We have pleasure in adding it to our Museum.

☞ We have received a model of a new "hiver," from F. R. Davis, Noble Co., Ind.—one that he has just invented. He says that he intends to give it a good trial this season, and report its practical value. We have added it to our Museum.

☞ The *Bee Keepers' Magazine* for Feb. appeared with a newly-engraved cover, and *Gleanings in Bee Culture* also came to hand with many illustrations and 8 extra pages. We are glad to note these evidences of prosperity.

CATNIP SEED should be sown very thick, in March, on good garden soil. Plants blossom the first season, but it requires two years to give them full bloom. In the fall, cover the plants slightly with rubbish, to prevent the frost from throwing them out of the ground. In the spring, set the plants out 3½ ft. apart each way, and cultivate like corn. Two years ago, in many localities, all sources of honey failed but Catnip. Those who wish to sow this honey-producing seed should procure and sow it at once. We can supply a few pounds at $2 per lb.

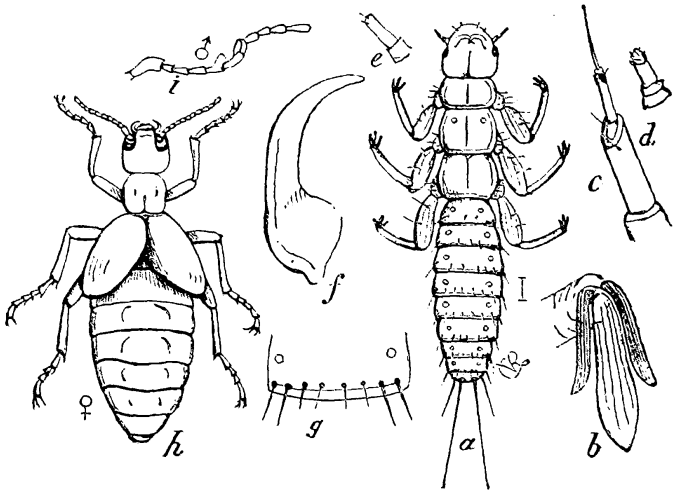
Curious History of the Oil-Beetle.

In a most interesting paper on the larval habits of the Blister beetles, in the Transactions of the St. Louis Academy of Science, Prof. C. V. Riley thus speaks of the bee-parasitism of the Oil-Beetle:

It is generally stated by writers on the Hive-bee that the Oil-Beetle (*Meloe*) is one of its parasites. The possibility that our more common blister-beetles were similarly parasitic on bees, taken in connection with the frequent complaints from apiarists of the wholesale death of bees, from causes little understood, led me, some years since, to pay attention to the biological characteristics of the blister-beetles, in the hope of ascertaining whether or not they really bear any connection with bee mortality. From these investigations I am satisfied that *Meloe* is only parasitic on the perfect Hive-bee as it is on so many other winged insects that frequent flowers; and that it cannot well, in the nature of the case, breed in the cells of any social bee, whose young are fed by nurses in open cells.

The history of *Meloe* may be briefly summed up as follows: The newly hatched, or first larva, (now generally called *triungulin*), was first mentioned in 1700 by the Holland entomologist Gœdart, who hatched it from the egg. Frisch and Reaumur both mistook it for a louse, peculiar to bees and flies. De Geer, who also obtained it from the egg, mentions it in 1775 as a parasite of Hymenoptera. Linnæus called what is evidently the same thing, *Pediculus apis*; Kirby, in 1802, described it as *Pediculus melittæ*, and Dufour, in 1828 named it *Triungulinus andrenetarum*. Newport, in 1845, (*Trans. Linn. Soc.*, vol. xx, p. 297), first rightly concluded that it was carried into the nests of bees, and described, in addition, the full-grown larva from exuvial characters, and the coarctate larva and pupa, which he found in the cells of *Anthophora retusa*. He failed, however, to fill the gap between the first and full-grown larva; and this Fabre first inferentially did in 1858, (*Ann. d. Sc. Nat. Zool.* t. ix. p. 205), by tracing the analogous stages of *Sitaris*.

The female *Meloe* is very prolific.—She lays at three or four different intervals, in loose, irregular masses in the ground, and may produce from three to four thousand eggs. These are soft, whitish, cylindrical, and rounded



MELOE:—*a*, first larva; *b*, claws; *c*, antenna; *d*, maxillary palpus; *e*, labial palpus; *f*, mandible; *g*, an abdominal joint; *h*, imago; *i*, antenna.

at each end. They give birth to the triungulins, which, a few days after hatching—the number depending on the temperature—run actively about, and climb on to Composite, Ranunculaceous and other flowers, from which they attach themselves to bees and flies that visit the flowers. Fastening alike to many hairy Diptera and to Hymenoptera, which can be of little or no service to them, many are doomed to perish, and only the few fortunate ones are carried to the proper cells of some *Anthophora*. Once in the cell, the triungulin falls upon the bee egg, which it soon exhausts. A molt then takes place and the second larva is produced. Clumsy, and with locomotive power reduced to a minimum, this second larva devours the thickened honey stored up for the bee larva. It then changes to the pseudo-pupa, with the skin of the second larva only partially shed; then to a third larva within the partially rent pseudo-pupal skin, and

finally to the true pupa and imago.—These different changes of form are known by the name of hypermetamorphoses, the term first given them by Fabre, to distinguish them from the normal changes from larva to pupa and imago, experienced by insects generally. The triungulin or first larva (*a* in cut) is characterized by a prominent labrum, very stout thighs, unarmed shanks, three broad and subspatulate tarsal claws, feeble and reduced trophi, untoothed jaws, 3-jointed antennæ, ending in a long seta, and four anal setæ, the two inner ones longest.—When the abdomen is shrunken, the general aspect is very much that of *Pediculus*, and it is hardly surprising that some of the early describers so determined it.

The Crystal Honey Fraud.

Friend J. E. Moore, of New York, has sent us a hand-bill puffing this vile trash. It is the same that has been "exposed" many times, under different names. This time, one Chidester, hailing from Fulton St., N. Y., is trying to do a *wholesale* business in the sale of Family, County and State Rights for the Recipe to make it.

The circular states that Honey is a staple and in great demand. With this Recipe, which can be filled by any druggist, it can be sold at a low price, and yet the agent can make more money than at any honorable business. 100 ℔s of Honey(?) can be made in half an hour, at a cost of 10c. per ℔., and can be sold for 25 cents per ℔.!!! How *cheap* that is, when the genuine article can be bought for less money.

The circular proceeds to work out *on paper*, the profits, and concludes with $1500.00 as profit to the agent on 10,000 pounds.

Then the recipes can be sold at $1.00 each, to a million families, who will thus be gulled out of $1,000.000 for nothing but a receipt to make a vile compound—*called* Crystal Honey. The agent can get 500 of these recipes for $25 and have a $30 watch thrown in!!

Exclusive rights for large cities (where those reside who know but little about the production of genuine honey), are sold at *special* rates! Of course! Why not?

To cap the climax of *fraud*, these scamps print a "testimonial from M. C. Quimby," which is intended to convey the idea that the late "M. Quinby," of New York, approved of this swindle. The whole is an outrage on honesty, and a libel on common intelligence!

Chidester also deals in bogus Jewelry, Magic goods, Floral Decorations, a beautifully engraved dollar plate of "The Lord's Prayer," which he sells to agents for $15.00 per 100, and Palestine Crosses from Lebanon and the Mount of Olives, and any amount of *cant*. A good wind up for such a huge fraud!

It is a *trite* remark, but very full of truth, that "when you see a great deal of virtue displayed in the store window, you may depend upon it that the Stock within is exceedingly meagre." Truly, Chidester's case is no exception to the general rule.

☞ We are hard at work on Prof. Cook's new book on the Apiary, and can assure our readers that it is exceedingly interesting. It contains facts and principles not to be found in any other work yet published, and these are just the things, too, to make apiarists more successful. It is profusely illustrated with cuts, engraved expressly for this work; and, when completed, it will be the most valuable work ever placed within the reach of those who wish to conduct the apiary on scientific principles, and as a reward for their labors expect a good yield of marketable honey.

HONEY JAR LABELS.—To make a good paste, follow this receipt: Dextrine, 2 ounces; acetic acid, 4 drachms; alcohol, 4 drachms; water, 2½ ounces.—Mix the dextrine, acetic acid and water, stirring until thoroughly mixed; then add alcohol. For attaching labels to tin, first rub the surface with a mixture of muratic acid and alcohol; then apply the label with a very thin coating of the paste, and it will adhere almost as well as on glass.

Letter from Bohemia, Austria.

Herr R. Mayerhœffer, editor of the *Bienenvater*, in Prague, Austria, in a recent letter remarks as follows:

"It gave me great pleasure to read the Proceedings of the National Convention of Bee-keepers, held in New York, last fall, as reported in THE AMERICAN BEE JOURNAL. I shall translate many of the speeches for the *Bienenvater*. I follow with great interest the progress of American apiculture, and endeavor to make its details advantageous to our German bee-keepers, and I am sure that they fully appreciate my endeavors.

"In 1879, the Congress of German and Austrian Bee-keepers will be held at Prague. At this early day, I invite you in the kindest and most cordial manner not to fail to make us a visit at that time, and take part in our deliberations."

Brother Mayerhœffer will please accept our thanks for the cordial invitation. If it comes within the range of possibilities, we shall be most happy to avail ourselves of the pleasure of such a treat, but fear it will not be possible to leave our duties so long.—Perhaps the National Convention, when it meets this fall, may conclude to send a delegate to the German and Austrian Congress; if so, the same will be stated in its Report.

Honey Prospect in California.

Our readers will be interested in the following letter from friend J. S. Harbison, in relation to the prospects for a honey crop there this year:

We have 6.02 in. rain for this season, to date. In the bee range the quantity is, perhaps, 1 inch greater in some localities, a little less in others. It has fallen in gentle showers and all counts for good. Should we have a further addition of, say, 4 or 5 inches, we can safely count on a good, average bee season. I think, however, in no event can there be as large an aggregate crop of honey as was produced in 1876.

Two reasons may be given for this conclusion. 1st. Bees are mostly weak in numbers; not, in my opinion, being as numerous, collectively, as in the spring of 1876. 2nd. Some of the "*semi-shrubs*," heretofore relied on for honey, are seriously injured, or *totally killed* by the drought, and can only be restored from seed,—requiring from 1 to 2 years' growth before affording bloom. In short, it will require one good season to fetch the vegetation to a normal condition.

The season is late; bees are only now commencing brood, and as I have left them, as far as possible, in quiet, thus far, I cannot give any correct idea as to the number living, or the condition they are in.

We will commence active work as soon as the weather clears and gets warm. J. S. HARBISON.

San Diego, Cal., Jan, 19, 1878.

Friend F. C. Hazen, Anaheim, Cal., under date of Jan. 10, 1878, writes:

"So far, it has been dry here, and bids fair to be a *dry year*; if so, but very little honey will be produced this season. About one-third of all the bees here died last year, and if we get rain, we shall only harvest one-third of a crop."

On February 15, a severe storm and heavy rains were reported from San Francisco, doing an immense amount of damage. So, between a severe drouth last year and too much water this year, the outlook in California is anything but encouraging.

THE ROBERTS HIVE.—We have just added to our Museum a hive, manufactured by John Roberts, Henry, Ill. It is a modification of the Langstroth, with division boards, portable portico, slanting alighting board, loose bottom board and several other items of change. It is well made, and nicely painted; and its construction shows that friend Roberts is thoroughly familiar with the habits of the bee, having kept bees for 20 years. He has had experience with the Langstroth, Quinby, American and Cottage hives, but considers this an improvement on them all. He uses it to winter on summer stands, shielding only from the north and west winds, contracting by division boards to a few frames, and packing chaff or straw, as well as having a chaff-box on top so filled.—For out-door wintering, it is doubtless a good hive.

The Smoker Question.

DEAR EDITOR.—On page 31, Feb. No., you state that the Bingham Smoker is not a copy of the Quinby, but is "original in construction and design," especially in "its internal arrangements." Is not the "direct draft" the only thing *original* in it? Is it not a copy of the Quinby in everything else? Please answer in the next issue. QUIZ.

Quiz is quite inquisitive. We dislike invidious comparisons, and shall not make such in this answer—aiming only to give the simple facts.

As the Bingham Smoker is in every part designed for, as well as adapted to the "direct draft" principle, it cannot be a copy of one whose construction is not adapted to that end. Among the dissimilarities we note the following:

The Quinby has a small, long tube, with a loose wire grate; the Bingham has one, *short* and *wide*, with a perforated *iron* fire-grate.

The former has a spiral spring; the latter two long *flat* springs.

The former has two loose, metal valves; the latter one tight, *spring* valve.

The former has a long, thick bellows, with a diaphragm; the latter a thin, square bellows, with *no* diaphragm.

The former has arms of tin to hold the tube to the bellows; the latter is held by a *block* of oak.

The former has a sharp, thin joint, strained with every motion; the latter a *long, wide* joint, and remains almost motionless.

The question now is, *Where is the similarity?* Our statement in the February issue was that "the upright bellows and tube in form bore some resemblance," but in no other respect are they similar. Can Quiz find any other resemblance?

☞ Chas. Hastings, of Carlville, Pa., says he has a new plan for holding foundation. He says, "I call it the convex wedge slot; thus V 1½ inch at surface, and ⅛ inch deep. This form holds it so much better than a saw kerf. A little resin put into the dipping wax will be beneficial. No patent."

☞ J. Oatman & Co's new Price List is on our table, quoting figures for this season's operations. They are good men to deal with, so far as we have ever heard, and have a large advertisement in this issue.

☞ In J. E. Cady's letter, on page 57, Feb. No., read "I got 700 lbs. of honey and sold it for $138.

☞ Sixteen extra pages in this month's JOURNAL, and yet, for want of room, many interesting Letters and Communications, prepared for this issue, are crowded out!!—The proceedings of the North-Eastern Convention did not come to hand till the 23d, and then, in order to give it room, two whole departments—Marketing, and Notes and Queries—had to be omitted!

We are in the midst of a great *Revival;* thousands of bee-keepers, many of them hitherto belonging to the class styled slovenly, being convinced of the folly of that course, have made up their minds hereafter to work scientifically. "Old things are passing away," and out of the chaos is emerging "the new order of things"—the *new heaven* of intelligence, and the *new earth* of practical and scientific work!

The breezes of this consternation have already reached the consumers, who are turning their attention to the value of honey, as a medicine. Anciently its healing powers were acknowledged everywhere—but of late, people have, in its stead, been swallowing death-dealing drugs by wholesale. This *Revival* promises to reinstate Honey in its proper place, as Nature's remedy, pure and simple, for diseases of the chest, lungs and stomach, as well as for healing wounds, bruises, etc.

As the JOURNAL presents the old, as well as the new converts, an opportunity of "telling their experiences," it must enlarge its borders, as occasion may require, even if it takes sixteen extra pages, each month, to accommodate them.

The April number promises a *rich feast* in every department. Our readers having greatly increased since the new year, our energy and courage is correspondingly increased, and we, renewedly, devote our attention alike to producer and consumer—believing that their interests are identical.

☞ Henry Alley, of Mass., and N. Cameron, of Mo., say that they have, for years, sent queens by mail, with a written letter, paying letter postage on the package.—When letter postage is paid on a package, the contents being unknown to the Post Master, he is under obligation to forward it—and so they say they have had no trouble about sending queens by mail. This evades the *letter* of the law, but without further light on the Postal law, we could not recommend its general adoption. We shall investigate the new law about to be passed, as soon as we get a copy of it, and report in the next JOURNAL.

Southern Notes,

GLEANED BY

W. J. ANDREWS, - COLUMBIA, TENN.

Sketches from Tennessee.

POLLEN STIMULATES.

We want strong stocks of bees early, to secure good yields of honey; and to secure such stocks, it is necessary to begin operations in the apiary early.—It appears to be the generally received opinion, that bees rear their brood in proportion to the amount of honey they are gathering, and many bee-keepers, who wish to stimulate their queens to early action, even with plenty of honey in the hives, resort to feeding on liquid sweets. Is there not a misconception as to the wants of the bees in such feeding, and is it not pollen, or some substitute for it, that is required to reach the end desired? We frequently find, during a great flow of honey, when the gathering of pollen is almost wholly suspended, comparatively, a small amount of eggs and brood, but so soon as the flow of honey begins to subside, and the bees are again gathering pollen freely, the queen is stimulated to great activity; filling, in many instances, all the unoccupied space in both apartments to the hive with brood, and with a normal colony, will be kept so until these conditions are frustrated. The reason is obvious. The queen oviposites but sparingly, except when the hive is supplied with plenty of pollen. It follows, as a consequence, that the bees supply her, as well as the young bees, with food, principally prepared from pollen. This accounts for the eagerness with which bees gather pollen at the approach of warm weather, and if natural pollen cannot be obtained, for the avidity with which they take any substitute accessible to them.

REPORT.

We began the season of 1877 with 36 colonies, mostly weakly ones, and increased, by artificial swarming, to 92. The linden harvest being a failure, our honey crop was light; though from a single colony we obtained 232 lbs. of honey.

Our greatest increase from a single colony was 8, which are now all in a fair condition. Have lost 2, up to this time, for want of attention at the proper time. After disposing of some and uniting others, we have 79, with prospects of safely carrying them through. S. D. MCLEAN.

[Right glad, friend McLean, to welcome you to our "Southern" department. Here's our ☞ and may we have the pleasure of frequently griping it. Our old friend Moon has fallen in line, and gives us an occasional item; now, you have stepped in. Will not some more of the old *World* family give a greeting? Why not have a reunion of that old family in these columns?—Come, Dixie friends, let's hear from you!—W. J. A.]

Muth's Shipping Crate.

FRIEND ANDREWS:—Your favor of December 20, 1877 came to hand in due time. Also your comb-guide. It seems to be, of late, the general disposition of our friends, to improve on the style of their comb honey; and it is very essential, also, that comb honey should arrive at its destination in as good style as it is shipped from home. Our friends use, generally, too large boxes; boxes which are calculated for two men to handle, but which are often handled by one man only, who works the boxes along on their corners and breaks most of the combs. Much to the dissatisfaction of the dealer and producer. Several very good shipping boxes were exhibited at the Convention in New York. Still there is room for improvement. The frames, or sections should be no smaller than to hold 1½ to 2 lbs. of honey; because, we can sell, just as readily, 2 lbs. of honey in a frame as 1 lb; and we can produce more honey in larger frames, because the finishing part occupies the bees, apparently, the longest time. The shipping cases should be neat, substantial and cheap. They should hold no more than about 50 or 60 lbs. of honey, and a handle should be on each side, towards the upper half of the case, which prevents those baggage-smashers from setting the cases down on a corner.—The honey should also be seen behind the glasses of the section boxes, and at a safe distance from the outside.

I have sent you one of my shipping cases, with 4 sectional boxes, as a sample. Imagine, if you please, those empty sections to be filled nicely with comb honey, and tell us through the JOURNAL, whether my shipping boxes find your appreciation, or, what objection you have to them, and oblige.

CHAS. F. MUTH.

[The shipping box and frames came duly to hand. Thanks. We certainly

think they will answer the purpose fully, and possess the merit of being cheap. Hoge's carrier is quite expensive. We are of the opinion, friend Muth, that your carrier would answer the purpose still better, if constructed to carry 16, instead of 32 sections. It is true, that it would add somewhat more to the expense of getting it up, but we think this would be more than counterbalanced in their being so much lighter, thereby insuring more safe handling.—W. J. A.]

Correspondence.

For the American Bee Journal.

Trouble.

Novice, under the above heading in *Gleanings*, page 61, February number, says that "two of our bee family" (Doolittle and Betsinger) "have got into a quarrel." We wish to say that this is *not true*, as Betsinger and Doolittle have *never* quarreled.

There is a difference of opinion between B. and myself in regard to the medal, to be sure; yet, this does not necessitate a quarrel, by any means! We have, however, two very unkind and unchristian letters in our possession from Novice, in which he accuses us of being a hypocrite, and trying to injure our friend Betsinger.

Novice also tells us in the same article, that "a number of our bee-keepers put in $7.00 each, and then one draws the whole, or at least $50.00 of it," &c. This is the first we ever heard of such a thing, and is *wholly untrue*, as far as we are concerned; and as we received the medal, we think we would have been called upon for the $7.00, if any one was to pay it.

Next, he says that Doolittle and Betsinger were to go in partnership for the medal, and if they took it, Betsinger was to have the credit for the box and Doolittle for the honey. This is as *untrue* as the other statements. Each of us, B. and ourselves, made crates to compete for the medal, while B. told Mr. Hoge at the time we sold our honey to Thurber & Co., that *he* should certainly get it, as no one had honey that would compare with his. Later, B. said to us (that is my better-half and myself) that he did not care which of us got the medal, as long as it was awarded on the boxes we used. He also made this statement to Mr. Hoge while we were in New York City, after my case of honey was stolen; that was all that was ever said in the matter between us.

Then, Novice says that "another case was selected from the lot of honey that Thurber & Co. purchased of Mr. D., and the medal was awarded to it," when the judges say it was not awarded "to any one crate of an exhibit, but that they considered the boxes of honey put into the fancy crate by Mr. Doolittle as excelling all others on exhibition!"

Messrs. Thurber & Co. also wrote me, soon after the medal was awarded, that they had christened our *fancy crate* the "Gold Medal Honey."

Novice next states that "black bees will, without question, make whiter-looking honey than the Italians." We have had several letters since the National Convention, stating that the honey in our fancy crate was the whitest and nicest honey on exhibition, and the nicest they ever saw; besides what the judges say. We can prove to any one caring to investigate, that we have had no black bees for five years.

Novice next says that "Mr. D. accuses Betsinger of having known of the blunder before the award, and of keeping still purposely." The truth is, we wrote Novice just the words a friend wrote us in the matter, leaving him to draw his own conclusions. We may have said it looked as though B. knew all about it before the award, or something to that intent.

Then, Novice tells us that "Betsinger stated truthfully that it was made by black bees." This cannot be so, for even Mr. Ranney's bees are mostly Italians and hybrids.

Next, Novice says we "made a most *desperate* effort to make it appear that the honey in question was not Ranney's, but our own, after all." Betsinger told me the second time I saw him after the Convention, that if I would send him either Ranney's honey statement or my own, he would prove the medal was awarded on crate No. 2 of Mr. Ranney's honey, and said I *dare* not send him either statement! To prove his knowledge in the matter, I sent him Ranney's statement purporting to be ours, and ours purporting to be Mr. Ranney's, and this was the "desperate effort" Novice alludes to, We were soon convinced we had not done right in thus *intending* to deceive Betsinger, even although he dared us to send him either statement; no matter which. So we sat down and wrote him, acknowledging our wrong, and asking his forgiveness, and soon had a letter from him saying he forgave it.

Next, Novice says, "Here is a copy of the statement sent the *Magazine*, knowing the the full facts as I have given them." We knew nothing of Betsinger's claim when we wrote the statement to the A. B. J. and B. K. M., and Novice had our letters in his possession telling him that no claim had been made of the medal being awarded on Mr. Ranney's honey when we made those two statements! And now he tells his readers that *we knew the full facts*, as he has given them!

Novice has a great deal to say about Satan, but a friend thinks if Satan had anything to do in the matter, that he must have certainly set the type for that article entitled "Trouble," for Novice could not have departed so far from truthfulness without his help. Now, we demand that Novice humbly acknowledges he has done wrong in this matter (no *if* I have done wrong in this matter; for he *knows* he has done wrong); or else tell his readers that all his boasted goodness, in *Gleanings*, is a *sham!*

G. M. DOOLITTLE.

Borodino, N. Y., Feb. 12, 1878.

For the American Bee Journal.

Patents and Smokers.

DEAR EDITOR:—Although exceedingly busy, I feel that I must send a word to the JOURNAL on the subject of patents and smokers, as the welfare of our fraternity is in jeopardy; as also the rights of some of our most enterprising brothers.

I think that many people—and from the last JOURNAL I think this includes you, Mr. Editor—are in error on the patent question. Suppose a man has inventive genius, and then works day after day—yes, and night after night, to give us some valuable implement or machine, and thus aids us all, is he to be robbed of his *hard earnings*?—I think common morality, certainly a genuine, enlightened christianity will pronounce an emphatic—*No*. "Render to every man according to his due." Were I the inventor of, say, so unique, so neat, so perfect and so desirable an instrument as the Bingham smoker, I should feel that it was as much mine as my colonies of bees, and that he who should make it without my permit, as much a thief as though he took my bees or honey. If my property and generosity would permit me to give it to bee-keepers, then, surely, I should be worthy of much praise. But, if I was unable to do this, if I was poor and had a family, in which case I should be in duty bound to retain the right to a reasonable profit; and, if I did not think this would be granted by bee-keepers, I should certainly be excusable—nay, in honor bound to procure a patent, to protect me.

Again, *pride* and *generosity* might also tempt me to secure a patent. I should feel proud of my invention, and should want its style, finish and durability to honor the hard thought and long experiments, which it had received from me. I should also desire to save my brothers the evil of cheap imitations, and thus should wish to monopolize or control the manufacture, from motives of pure charity.

Again, Mr. Editor, if such rights are not to be secured or respected, what motive have men to strive to create these improvements, or, if each patentee is to be put to the expense of litigation, then we shall have to pay just so much more, and ought to.

I believe that had Mr. Langstroth's undoubted right to the movable frames been respected, bee-keepers would have been much better off, the money spent on worthless hives much less, while humbugging patent vendors would have plied a much less lucrative vocation.

Let us urge our people to caution, to look before they leap; never to purchase a patent till they know that it is valuable and needed. And let us stay this unkind, and unwise railing at patents or patentees.—The honest man, to be consistent, must do this, or else give up the use of all improvements.

WHAT, THEN, IS OUR DUTY TO SMOKERS?

Mr. Quinby brought to our attention the bellows combined with the tube, which had been previously in use, though I dare say he did not know it. He got no patent, and so said, "all use it." Let us honor him for the gift. His generosity was respected.—His smokers were not made by others, hence the price was kept up, and we are benefited by having well made smokers.

Mr. Bingham invents an improvement—not, as I once ignorantly stated, "essentially the same as the Quinby." The bellows, (I have taken them all apart), the tube, the valves, and the form are all much superior. It fact, in finish it is certainly admirable.

He did not patent for a time; and see, we have already a cheap, poorly-made imitation, not to be compared with the original, and yet, costing half as much. Now I am sure that bee-keepers will agree with me in the desire to have the best smokers with the best material, just as Mr. Bingham uses.

I believe the good of bee-keepers demands that Mr. Bingham's patent be respected; and I believe, too, that he should not be forced to contest the case in law. Such litigation will trouble all invention and raise prices.

For the good of bee-keepers, for justice, and morality, I hope no one will be disposed to contest the matter. Should I be mistaken, I hope bee-keepers will make common cause, and come to Mr. Bingham's aid. I write this solely on the ground of right.—I have no interest, only that right and justice prevail. A. J. COOK.

[Bro. Cook very frankly says he thinks us in error about patents. Perhaps so; we remarked that "we should have preferred that this invention (Bingham's smoker) might *not* have been covered by a patent." These are our sentiments still—it entails considerable expense, which finally comes out of those who use them. We do not dispute the right—only the desirability.—We do not say but that there is a good argument on the other side; that if the Langstroth hive patent had been respected, it might have been much better for bee-keepers in general,—but it certainly would have been much pleasanter in this case. We do not believe in stealing a man's pocket-book, reputation nor invention,—for "honesty *is* the best policy," at *all times*. —ED.]

For the American Bee Journal.

Hard Times.

MR. EDITOR.—I have noticed a peculiar feature in the reduction of the price of honey hoping to increase the demand.

Times are *hard* for one class because they are *easy* for another class. In my home market these two classes embrace nearly all of our population.

The poor are *too poor* to afford honey at even $1.00 per gallon. The other class will buy just as much at 15c. per lb. as they would at half that price. Hadn't we better consider these points carefully before we re-

duce prices? I often sell extracted honey to poor people with children (who ought to have honey to eat) for 8 and 10c. per lb. I also give away from $20 to $40 worth every year. In reply to J. H. Martin, Novice says: "We should rejoice if honey should go down to 5c. per lb."...."Can't we be happy in seeing others made happy?" &c. Now, Novice, you will make many persons who indulge in "tea-kettle feeders," "the smoker we prefer," &c., very "happy," if you will reduce your price-list of "surplus" one-half. Don't say you "can't afford it," as that plea applies with equal force to the producing class, and does not disprove your assertion that others would be made happy thereby.

Now, friend Novice, I want to ask you some questions, and as you are "too busy to stop to answer private correspondence," and others would like to hear your explanation, I will ask you through the JOURNAL the following:

If you didn't owe Mr. Burch $50, why did you pay him that amount?

If you did owe him, why did you not owe R. S. Becktell; and if you did owe R. S. B., why did you not pay him? He says he sent in a claim and found the "bank closed."

Did not the "new light" light up your sanctum sufficiently for you to see that you were appropriating Mr. Bingham's invention in smokers, compelling him to protect himself by law, and us who use his valuable invention, to foot the bill? Have you not injured Mr. B. or the producers, or both—for the gain of a *very few* dollars!

HONEY BOXES AND SECTIONS.

MR. EDITOR: Since my letter appeared in the report of the Michigan Convention, I have received letters inquiring about the honey boxes, sections and shipping-case therein referred to. As many may prefer to make the case at home, I will here describe it. As I use *low* sections and boxes, of course I pack two tiers in a case; for experience has taught me that when so packed, the honey carries just as safely and cleanly, and the case shows the honey better, and is much cheaper per capacity.

I use these cases for both glassed boxes and unglassed sections. Its dimensions are 12⅞ long, 10¼ wide and 9⅝ inches high, inside measure; ends ⅝, cover and bottom ⅜, side strips ½ inch. This case goes together just like the prize crate, only it is higher and has a centre side piece, The top and bottom are wide enough to come out flush with the outside of side-pieces, and I handle it by the side top-pieces, instead of slots in the ends, as I like to handle all cases at the *side* of the combs. I don't know which way is best.

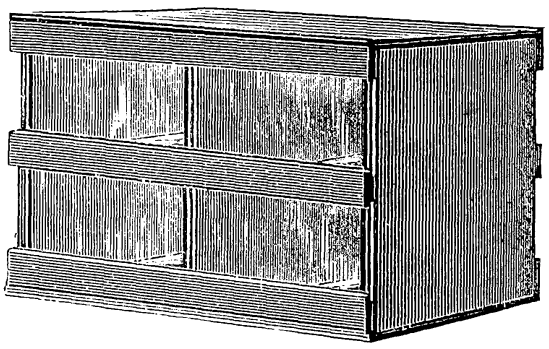
The top and bottom side-pieces are rabbeted ⅛x3-16 on one inside corner, and the centre-piece on both inside corners. When I pack sections, without glass, I slip in two panes of glass on each side, each 3x13½ inches, and brad fast at each end.

In shipping-boxes I omit the glass. I make them neat, smooth and cheap; *not to be returned.* I prefer a little play between the boxes and case, to aid the connection between the comb and box to keep its solidity.

This case takes 20 sections 4½x6⅜, weighing about 1½ lbs. each, packed in two tiers, with sheet of manilla paper between. It also takes 8 two-comb boxes of about 4 lbs., 4 in each tier, and paper as before; also, 16 one-comb boxes, of 2 lbs. gross; also, 20 one-comb boxes (shorter) of about 1½ lbs. gross. Four of these short boxes run crosswise the case, and show the figuring or stamping on the wood to good advantage. All the other 16 show the honey. I call all *boxes* that are glassed; all sections or section-frames, that are not glassed before going to the bees.

I believe that the coming market will demand at least 2 or 3 sizes of packages, and perhaps the smallest size without glass; *all* sizes may sell best glassed. Time will decide. If one small comb *must* be glassed, I am in for the 4¾x5x2½ inch one-comb box, glassed *before* going on the hives.

My main aim in putting these boxes, &c., in the hands of bee-keepers, is to stimulate a pride in all to ask a paying price for their honey, and to hold it till it will *command* it; which course will be to the advantage of every producer. They take just 30 of the 4¼x4¼ sections, and the middle-piece protects the glass, and at the same time hides the tops and bottoms of the section frames or boxes, which Root's case does not do.



HEDDON'S SHIPPING CRATE.

The past season I stored some more than two-thirds of my comb-honey in the 4 lb. boxes, glass on two sides, and less than one-third of my crop in 1½ lb. sections, with no glass. I sold each style at the same price gross, and have had much more trouble to dispose of the part of the section honey that is sold, than all the box honey—which was sold long ago. As my case and hives are so arranged that they are adapted to all these sizes of boxes and sections, I shall make 1878 a year of experiment, as regards the best styles and sizes for the best market at home and abroad. I also mean to test for myself, thoroughly, the small boxes *vs.* large ones, as regards the bees accepting and filling them quickly. I have already settled my own mind on the honey-board question, and I am a honey-boardist.

JAMES HEDDON.

Dowagiac, Mich., Feb. 11, 1878.

DePere, Wis., Jan. 12, 1878.

"This has been a peculiar winter; the thermometer ranging from 12° below to 50° above, with rapid changes. My bee-house has 20-inch walls; two 6-inch spaces filled with bran, and a dead-air space, besides 4 inches of lumber. It has a loft above and 3 ventilators." F. A. DUNHAM.

For the American Bee Journal.

Honey, the Supply and the Demand.

The market price of honey tends downward. It is much less than it was a few years ago. It seems probable that those now producing honey, will, with their increased experience and facilities, be able to produce a larger amount. It seems probable, too, that not a few new producers will enter the field. With the supply of honey thus largely increased, it is probable that the market price will continue to fall.—This probability has led not a few thoughtful men to doubt the wisdom of continuing in the business of bee-culture themselves, and to think that it is unwise to encourage others to enter the business. Perhaps a study of the progress of some other branches of production may give us some light to guide us in the work of producing and selling honey.

I lived for several years among people whose income came from fruit-growing. It was a great pleasure to see the order and beauty of the many fruit-farms. In spring, the strawberry fields, the raspberry fields, the peach and pear orchards were seas of bloom. In early summer, the delightful fragrance of the strawberry was borne on every wind, and many thousands of bushels of the luscious fruit were sent to the markets of Philadelphia, New York and Boston. In autumn the peaches blushed on many a laden bough, and the grapes grew purple in the sunshine. Of the latter, several hundreds of tons, nicely put up in small boxes, were shipped every year. Living thus among people engaged in fruit-growing, it was not difficult for me to obtain some knowledge of the progress of the fruit business.

Thirty years ago the quantity of strawberries sent to the markets of the largest cities was small compared with the quantity now sent. A few growers, in the immediate vicinity of the large cities, supplied the whole demand. The berries were sent to market in neither elegant nor convenient style. But prices were high. Producers always found a ready sale. Soon they began to produce more largely, and to improve the style of their packages.—More persons took up the business. Some competition was aroused, which resulted in improving the varieties of the strawberry, and the elegance and convenience of berry-baskets and crates. Still the demand was large enough to absorb all the supply at good prices. Growers were stimulated to increased efforts. Many new growers took up the business. At last the markets were glutted, and prices fell very much. It was no uncommon thing for cargoes of berries to spoil and be thrown away. Soon prices were down so low that berries retailed for from 10 to 15 cents per quart. After paying freight, drayage, and commission, but a small sum, per quart, found its way to the pockets of the producers. The producers were nearly in despair.

The large quantity of fruit was, however, the means of advertising the fruit. It forced itself silently on the notice of the people. It was a fragrant and beautiful fact on rail-cars, steamboats and drays, in the markets and the fruit-dealers stalls.—People could not help seeing it; they could not help being attracted by its tempting lusciousness. And then it was *so cheap*, they could afford to buy a quart or two.—Moreover, the berries began to be found in every small and remote grocery, and fruit stand. Formerly, when the prices were high, they were for sale only at the places patronized by the wealthier people. But soon the dealers in poorer quarters found that their customers would buy them at the cheap rates. The consumption of berries was immensely increased. Soon the growers found that their largest crops were absorbed by the great cities, as regularly and certainly as a quantity of flour, or meat. The fact that the tempting fruit was right before the customer, and at such a low price that he could afford to buy, created a demand.

Ere long, the production of strawberries became a large industry. It now employs a large number of people in the states along the Atlantic coast, in quarters whence the berries can be sent to the great cities. The season opens early, with fruit from the south. As the glad summer creeps over the northern hills, it sends the health-bearing berries into all the cities, by every avenue of approach, both by water and land. Not until the middle of July does the Boston market get its last consignments from fertile nooks among the hills of New Hampshire and Vermont. The growers, south and north, do not get large prices. They do not get suddenly rich, but they do find a demand for their product, at prices which enable them to live comfortably. They have a regular, legitimate, honorable business. They have disasters, now and then. An unfavorable season cuts off the crop.—A very large yield puts prices away down to almost nothing. But in spite of occasional disasters, the growers succeed very well.

I have spoken about growing strawberries because with that I am somewhat familiar. But what is true of growing strawberries is true, essentially, of growing peaches, grapes, apples and sweet potatoes. It is true, also, of the manufacturing of cotton and woolen goods. If we choose to go into the statistics of sugar, tea and coffee, we should find that the production of these articles has had a similar history.

After looking at the above facts, and at others in the same line, which will readily suggest themselves to thoughtful people, could a person be accused of reasoning on false and insufficient premises, if he should affirm the following propositions?

1. Bee-keeping will continue for some years to come to attract capital and intelligent labor.

2. Intelligent bee-keepers will continue to make improvements in the science of bee-culture, until the business reaches its greatest normal capacity of production.

3. The increased number of producers, and the improved methods will result in a largely increased production of bees, honey and wax.

4. This large production will continue to put prices down until they will be a good

deal lower than they now are.

5. This lower price will create a demand. The consumption of honey will be very largely increased.

6. Although the producer will receive a less price per pound, he can make much larger profits than now. Suppose, now a producer sells one pound of superior comb honey for 20 cents, and makes, above all expense of production, ten cents. By and by, improved methods of management may enable him to produce comb honey at an actual cost of eight cents per pound. If, then, the demand increases so that he can sell a hundred pounds, at nine cents a pound, where he now sells one pound at 20 cents a pound, he will be a large gainer; he will gain 100 cents on the sale of 100 pounds, just as easily as he now gains 10 cents by sale of one pound.

It seems to me that bee-kepers must take some such view of their business as the one I have here sketched so briefly and imperfectly. It is nearly certain that a larger amount of honey will be produced, and that prices will be lower. To lament about this is useless and foolish. Rational men will turn their attention to lessening the cost of production, and to increasing the demand so largely, that, in spite of low prices, a living income may be obtained.

Keokuk, Iowa, Feb. 8, 1878. O. CLUTE.

For the American Bee Journal.

Spring Dwindling of Italians.

THE CAUSE AND THE REMEDY.

MR. EDITOR:—My experience with Italian bees has been somewhat limited, having only introduced them into my apiary about two years ago. But since that time I have been a close observer of their habits, marking their merits and demerits in contrast with our native black bees. From this brief experience I am led to believe that if we give the Italians the attention their nature requires, we will find them much more profitable to us than black bees.

A few words with reference to the manner in which I winter my bees will lead me to the thoughts I wish to express about spring dwindling. I have now twenty colonies of bees in my cellar; nineteen of them are Italians. At this time (Jan. 9th) they are in good condition. My cellar is dry, dark, well ventilated, and free from disturbance. Each hive is also ventilated, by leaving the entrance and honey-board open. The tops are elevated at one end so that there is a free circulation of air. With this precaution no moisture collects in the hives, and the combs come out clean and dry in the spring. For the last four years I have wintered my bees in this manner without losing a *single* colony, nor have I lost any (natives or Italians) from dwindling away in the spring. I think it is fair for me to attribute my success alone to good management.

Spring dwindling, I believe, comes from a **lack of good management.**

Italians are more energetic, more industrious, more *daring*, than black bees. They will venture out when their owner will shiver in his overcoat. My attention was first called to this fact one cool, chilly morning, a few years ago, on seeing about a dozen Italians busily at work upon a little piece of honey-comb that had been thrown into the yard from the breakfast table. Here was this tempting morsel not ten feet from my colonies of black bees, and yet not one of them had found it. A neighbor, a half mile away, had one or two hives of Italians. There were no others in the neighborhood. I have noticed, at other times, that when a honey-box has been emptied and left in an out-house, the Italians will find it when it is so cold that black bees will not venture out. I conclude, therefore, that Italians will often lose their lives by venturing out on cold, chilly days in spring time.

The remedy is confinement. Let them be put away in a dry, dark cellar, as described above, as soon as winter has fully set in, and *keep* them there till spring, being careful to return them to the identical spot they occupied the summer before. This last precaution is of great importance. In the evening, *after dark*, is the proper time for carrying your bees from the cellar; then they will be quietly settled before morning. There is not so much danger of a panic the following day, if carried out in the evening. It is unsafe to do this when there is much snow on the ground, even if the day is warm, and the snow melting rapidly. In their first flight after confinement, they are almost certain to take a rest before returning to their hive, and those alighting on snow, or on the cold, wet ground, will soon become chilled and perish. It will not take long to deplete a colony under such circumstances. I neglected saying above that every colony should be sheltered from the sun, especially at this trying season of the year. My apiary is on a little hillside facing the north, and so my bees are seldom enticed out by the warm sun, when the air is too cold for them.

Burlington, Iowa. I. P. WILSON.

For the American Bee Journal.

Bibulous Bees.

San Diego, Cal., Jan. 21, 1878.

I notice in the Dec. number an article copied from the *Los Angeles Herald*, which quotes the opinion of Chalmers Scott, Esq., that bees do great injury to the fruit crop.—Mr. Scott and I are intimate friends, and we have frequently discussed this subject, and during the past year I have given it careful study. It is true that where bees are numerous they do injure the grape crop, and in this way: Bees cannot puncture the skin of a sound grape, but, if it is cracked, or any way defective, they soon suck it dry. Grapes grow here very luxuriently, bunches weighing from 1 to 4 pounds each. When nearly ripe, a good many berries part a little from the stem, and, frequently, birds and some insects puncture them, and these are destroyed by the bees. For sale, for table use, they are much injured, as it impairs the appearance of the bunches, but for making wine, the loss is small; very much less than is caused by birds, gophers, rabbits, etc. The past year being one of almost total failure of the honey crop, bees were more troublesome than usual; but so

all animals were. The failure of the grape crop can more justly be attributed to the dry season than to the bees. In regard to the oranges, no botanist believes that the extraction of honey from the blossoms injures the fruit, nor that if fruit sets at all it can be dwarfed, or stunted by anything that can have happened to the blossoms. That is also due to the dry seasons.

Bees have a great aversion to feeding where sheep have been grazing, seeming to dislike the smell left by the sheep. The latter, also, do great injury to the sage, by breaking it down during the dry season; they do not eat it. The above is as near the facts as I can get. We are having plenty of rain this winter, and prospects are good for crops of all kinds.

CHAS. J. FOX,
Pres't. San Diego Bee-keepers' As'n.

Los Angeles, Cal., Jan. 12, 1878.

"MR. EDITOR.—In the December JOURNAL, under the heading of 'Bibulous Bees,' you ask the California 'bee kings' if Col. Chalmers Scott is correct in saying that the bees have developed a great fondness for orange and grape blossoms. It is, and they are equally fond of pumpkin and other blossoms. When wine sold for 50 to 75 cts. per gallon, they made 4,000 to 5,000 gallons of wine; but now, as it can be bought for 15 to 25 cts., the fashion has changed. They make a great deal of it now into brandy—but why blame the bees for it? The dwarfing of the orange, by the bees feeding on the blossoms is too ridiculous for comment. In the summer of 1877, I frequently passed through a large flock of sheep, that were feeding among large quantities of white sage, while the bees were humming on every branch. BEE KING.

[So, it appears, the bees have been slandered again. To commerce, and not to the bees, it seems to be chargeable that the vintage of California has greatly diminished. Instead of the fruit being "dwarfed" by their working on the blossoms—the *prices* are "dwarfed," making it unprofitable to gather the vintage! For several years, a similar "shrinkage" has prevailed in "real estate," in "dry goods," and in many other things—why not charge all such in a lump to the bees?—ED.]

For the American Bee Journal.

"Say"

To R. M. Argo that he hit the nail "square" on the head, when saying that "Bees require everything done at exactly the right time, or there is no success with them."—There it is, in just 16 words—the first nine tell you what you must do, and the last seven give the penalty if you don't do it!

To talk about "light work," "fit for invalids," "all profit," etc., is all nonsense! All bee-keepers, who keep enough to make them an object, often have their clothing soaking wet with perspiration, as friend Argo and myself know full well, and find *plenty* of *hard* work. Ask Doolittle, Betsinger, Palmer, Hetherington, L. C. Root, or any successful bee-keeper, and hear what *they* say. It may be fun to keep 8 or 10 colonies of bees, if a man has something else to get "phatt" on. But to get much from his bees he must make up his mind to *work*. F. I. SAGE.

Wethersfield, Conn.

[True, Oh *sage* philosopher; thou reasonest well! To own a few bees may be *fun*; but an apiarist who looks for profit by scientific management, finds the work not so funny! Friends Hetherington, Betsinger, Doolittle and others work hard in their apiaries during the season, and only by persistent work and scientific management do they obtain such satisfactory results.—ED.]

For the American Bee Journal.

Springing Bees.

It is probably conceded that in the colder latitudes, bees should have some protection during the winter. A dry, dark cellar *properly ventilated* answers very well.—All have not such a cellar, and it is attended with some trouble to remove them from their summer stands in the fall, watch the ventilation during the winter and return them to their summer stands in the spring. The same trouble exists if a special depository is built, convenient to the apiary; it, however, has this advantage: It is a nice place to extract honey, and keep tools and implements in the summer, but—it costs money.

Many are placing the hives within a large dry goods box, upon the summer stands, filling *all around* with chaff, preparing a passage way out for a fly-hole and ventilation, to be nearly closed when the thermometer indicates 45° or less. The top of the hive is covered with one thickness of a common bed-quilt, with 6 or 8 inches of chaff upon it, after placing half a dozen ¼ inch pieces of lath across the frames, and in the common box hive, opening all the holes on the top of the hive that the steam may escape. I am of the opinion that 8 or 10 inches of chaff all around would not be too much; still less would be better than nothing.

One advantage in this mode of wintering is that it gives an opportunity for a purifying flight, occasionally, during the winter, which may be the salvation of the apiary if dysentery prevails, and it can do no harm if it is absent.

Bees can be wintered pretty well by either of the above methods, but the *springing* needs some attention. I have not noticed, in my reading, any rule or guide for it. We bring our bees out of the cellar or other depository in the spring and examine them. They have wintered very well. We wish to do so, early, for fear they may positively stand in need of a purifying flight. We could return them again, but it is attended with some labor and trouble, and perhaps before the half of them are set out or the half of any one swarm have had flight the air becomes cold; some are chilled

and lost; and we must return them to the depository and wait again for a fair day to repeat the operation.

I am of the opinion that when they have had a good flight they should be returned to the depository and *remain until all the earlier varieties of willow and soft maple are out of bloom.* The maple blossoms last but about 10 or 12 days, and, one year with another, the bees do not work on an average to exceed three days on them, and but little, if any longer, on the willows; and, during all this time, they are dwindling away like an incurable, consumptive, human body. The number of owners of honey or pollen is but a trifle, comparitively, still it would be of great value as a stimulent—but it also stimulates the old bees to the fields, to their destruction on chilly days. Is this necessary? No!—Stimulate them within doors with honey, syrup, rye or other flour.

But how are we to keep those that are wintered on their summer stands from going to the fields for the willows and soft maples? Suppose we construct a sort of a park for them to fly in, in confinement, after they have had a good purifying flight in the open air. The machine, cage or park, might be constructed, say 2 feet square, more or less, perhaps not much less, and thus: The top and bottom of tight boards, the four corners of light posts, an inch square; the sides and ends covered with mosquito netting, and an opening in one side to admit the ingress and egress of the bees; also a hole or trap door, by which to introduce feed—to stimulate. This door may be through the top or bottom. Connect the machine to the front of the hive, or rather the box in which the hive is enclosed, and fasten so tight that a bee cannot escape; place the honey and flour near the entrance, for stimulation or food, let the machine be fastened by some simple contrivance, that it can be attached or removed readily, at pleasure.

This apparatus can cost but a nominal sum. Any person that has mechanism enough to handle bees can make and attach it when necessary. The netting costs but little.

Again, would it not be advantageous to place it upon the hive prior to the time of their purifying flight, in the event of there being snow on the ground, as many fall upon it and are chilled and lost? Let them have their flight within this apparatus; I think such a flight in confinement will answer the purpose. Mr. H. E. Bidwell, of South Haven, Michigan, gave 80 swarms such a flight several times in the winter of 1874-5, by placing as many as 16 swarms at a time in a cold frame, 12 by 6 feet, with but 15 or 20 inches space above the hive. It may be said, that when there is no snow, the mouth of the hive may be closed with wire cloth; after they have had a good flight, there is much danger of their becoming uneasy, also of their dragging their dead to the entrance, closing it up and being smothered.

I have not had an opportunity to try this cage, but shall immediately, and believe it will work. MOOSH AMIEL.

Wayne, Mich., Feb. 1, 1878.

For the American Bee Journal.

An Amusing Incident.

FRIEND NEWMAN.—Having met with an accident in the shape of a saw-log, which saw fit to run over my legs, thereby confining me to the house, and having no bee man to visit with, I thought of the AMERICAN BEE JOURNAL, and concluded to tell you how, during the swarming season, last year, 1877, I saved one swarm of bees by losing another. I think it would puzzle the best of us to think how it could be done, and still it was a very simple thing to happen, though not intended.

I had a large swarm come out and settle upon a tall, leaning, white-wood tree over my apiary. The tree was so tall and the bees so far up that I did not dare try to get them by going up after them, for fear the tree might break by my weight upon it. So I had to let them be. They staid all day and all night, and the next morning I was provoked to see them still clustered there, knowing I should have other swarms out and that they would be sure to go for that cluster. Soon I saw a swarm pouring out of a hive, I ran to the hive and watched for the queen and as soon as she showed herself, I caught her. Then I looked for the bees, and saw them piling on to the cluster on the tree, and it was a large one, too. I put the queen in a cage and put her down by the hive, then went to cutting out the queen cells, as I was going to put the queen back as soon as the bees got all settled. I did not want to have them swarm out again. In a few minutes, the bees came piling back, and not only the swarm that left there, but the swarm that had stayed on the tree all night. So I had a surplus queen and saved one swarm by losing another, or rather, I saved them both.

A. C. BALCH.

Kalamazoo, Mich., Jan. 23, 1878.

From the Rural Sun.

Artificial Swarming.

"What is the best plan or method of artificial swarming?"

To come as near filling the condition of natural swarming as possible is undoubtedly the best. Now we will examine the conditions of natural swarming. Just before swarming the colony is very populous, but does not contain bees enough for two swarms, as many would suppose, but enough for one swarm and enough left to care for the brood in the old hive. The hive is generally well filled with comb, brood and honey. There are from twenty to thirty thousand young bees (brood) in different stages of development from the eggs in a good colony just before swarming. The colony, also, has a good fertile queen. This is the condition of the colony just before swarming, with young bees continually hatching. After the swarm has issued, we find the old hive as follows: All the comb and brood is still left in the old hive; also, all the honey, except what the swarm could carry with it, and a very few bees left in the hive, just enough to nurse the brood and

guard the hive—however, all the bees that are out in the fields at the time the swarm issues, will return to the old hive—and no queen, as she went out with the swarm. But we generally find queen-cells containing the royal larvæ, sealed or unsealed, which will develop into young queens in a few days, in the old hive. Such is the condition of the old colony immediately after the swarm has issued.

To summarize: The old hive is full of comb, plenty of honey, twenty to thirty thousand young bees in all stages of development, called the brood, and a few bees to nurse and care for the brood, but no queen; therefore, it will be several days before the old hive contains a good swarm of working bees and a laying queen, for eight or ten days must elapse before a queen and any considerable number of bees are developed.

Now we turn to the swarm that has just issued; having hived them in a new hive, we find the queen with nearly all the bees that are able to fly—old and young, nurses, comb-builders and honey-gathers. It is true, they have neither comb, honey—except what they carried in their honey sacs—nor brood, but they have all the workers to begin anew and fill their hive with comb, brood and honey. Such is the natural swarming, or swarming according to their instinct or habits.

The best methods of artificial swarming must therefore be similar. And now for the plan that will give each hive its due proportion of honey-gatherers, comb-builders and nurses, etc., as near as possible.

First, stimulate your bees by feeding early in the season to make them strong; and when they have started queen-cells, or if they do not start them soon enough for you, divide them by taking half the combs, bees and all, from the old hive and setting them in the new one, replacing them with the empty frames from the new hive. Set the old hive a little to one side, and the new one a little to the other, and thus get the bees as near equally divided as you can. If you notice more bees going into one hive than the other move it a little further off, and *vice versa;* you can generally tell if you do not know which has the queen by their uneasiness, running all over and around the front of the hive in search of her.

About the twelfth day after the division examine the queenless hive, and cut out all the queen-cells but one, and secure them in cages as directed for Italianizing. Then go to the colony you wish to swarm, take two-thirds or more of the comb from the old hive, shaking most of the adhering bees off into the old hive, set them in the new hive close up to the end, setting the empty frames of the new hive between the combs, alternately, in the old hive; cut out a piece in one of the combs in the new hive and fit in your cage containing your queen-cell, close up your hives and equalize the bees as before directed. By that means you get the most of the young bees, plenty of the older ones, and the queen in the old hive. Although it has but two or three, or prehaps four cards of comb, it has the working force and will soon fill up again, when the same process may be repeated. While the new hive has but few bees it has the most of the brood and a queen-cell that will hatch in four days or less time, you get honey-gatherers and comb-builders etc., in each hive.

About the third day, or perhaps sooner, the young queen will hatch; then examine and see if the bees have started any queen-cells in the new hive; if they have, cut them out before liberating the young queen; in a few days she will be laying, and everything moving on all right; and in a short time the new hive will be full and you can swarm it the same way.

Remember, in making swarms on this plan, to always have the queen in the old hive.

R. H. ANTHONY.

Tullahoma, Tennessee, Feb. 2, 1878.

Mich. Agricultural College Apiary Report for 1877.

METHODS ADOPTED.

The following methods were adopted in preparation for the winter of 1876-7. 13 of the 19 colonies were put into the apiary cellar, which is dry, dark, quiet, well-ventilated, and which preserved a temperature of from 35° to 46° Fahrenheit.

Three colonies were buried. A hole was dug in the side of a hill, where the soil was of light sand. Some straw was put in the bottom, on which the hives were set. The top of the hives reached the plane of the general surface level. A mound of straw was then laid on the hives, which was covered with about 4 inches of earth. A second layer of straw was then added, which was also covered, like the first. At the apex of the cone, was left projecting a twist of straw, 3 inches in diameter, which, though uncovered with earth, was so protected with a board as to keep the straw dry. About the base of the mound a trench was dug, which opened on the down-hill side.—During the severe weather of December, when the thermometer marked 19° below zero, a load of manure was added to the mound.

The 3 remaining colonies were arranged as follows: About the hives, except at the front, which faces the east, boards were placed, leaving a space of one foot between them and the hive, and extending one foot above the hives. The enclosed space was then crowded with straw, which also covered the hives one foot. Two of these were protected from wet by a close-fitting cover, while the third was left open at the top, so the straw would become wet and frozen.

CONDITION OF THE COLONIES.

All the colonies in the apiary had young, prolific queens, except in case of one, whose queen was imported, and which contained brood in October. They were examined for the last time in October, when all uncapped honey was thrown from the cells, and each colony provided by weight with 30 lbs. of capped honey. This took eight frames of comb, though in a few cases nine were required. The frames containing the most empty cells were placed in the center, and all the combs received a central opening, cylindrical in form, ¾ of an inch in

diameter. A portion of the colonies received bee-bread; others were left wholly destitute of the same. At the end of the space occupied by combs, a division board was placed, so that the bees of each colony occupied a chamber, whose dimensions were about a foot each way. Above the frames a quilt was placed, which hung over the division-board; and above this was a sack, made of coarse, unbleached factory, and filled with chaff.

EXPERIMENTS MADE.

The burying of hives was tried as an experiment, as I have long thought that with proper ventilation, and adjustment of earth, straw, etc., this would prove a very successful method, which if reliable, would possess the merits of being cheap, convenient, and practicable for all and in all places.

In February the colonies in the cellar were all removed to their summer stands, and permitted to fly. They all seemed in fine condition, and after a lively frolic were returned to their cellar quarters. In returning to the cellar, a satisfactory but expensive experiment was tried with one of the strongest colonies. The hive was closely shut up above and below, so that no ventilation was permitted other than that between two smooth boards, one of which rested on the other.

All the colonies were examined and weighed, April 4; and those in the cellar and those buried placed on their summer stands.

CONDITION IN SPRING.

Of the colonies buried, one was so moved in the process that all ventilation was cut off. The bees in this were all dead, though they had lived to breed some. The other two colonies showed a good many dead bees, and some soiling of the hives, but were lively, had some brood, and were in a fair condition.

The colonies that were packed, including the one with straw, uncovered, were all strong, and except one, that had no pollen, contained brood.

The colonies that were wintered in the cellar were generally in good condition, and all that had bee-bread contained brood.

The one with no ventilation was extremely weak, and survived removal to the summer stand but a few days. One colony, whose queen was reared the last of the previous September, was queenless, and the one with the imported queen became so in a few days. These two colonies were united with others. So we commenced the season with 15 out of the 19 colonies.

The average consumption of honey was as follows: The colonies which were buried, 6½ lbs.; those packed in straw, 15 lbs.; and those wintered in the cellar, 7 lbs.

Probably, the very warm February accounts for the large excess of consumption of the bees surrounded by straw. For days together, during that month, the bees were out in force. Had the straw entirely surrounded the hives, the result might have been different, as in that case the bees would not have been induced to take such frequent flights.

Pollen was brought in, for the first, on April 7, while we commenced feeding April 4; so the bees commenced to work at once, and we had no trouble with "spring dwindling." Our increase was entirely by dividing. We sold 3 colonies in the spring, captured one foreign swarm, which alighted on the grounds in June, had one colony stolen in October, and now have 28 colonies.

A POOR HONEY SEASON.

The season has been the poorest I ever knew in this locality. The yield of honey from white clover was excellent. This admirable honey plant was very abundant, and seemed full of nectar. The yield from basswood was very poor, and that from fall bloom but little better. Our financial showing, however, is not discouraging.—Our net cash receipts at the close of the season will be about $100. Add to this the increase in our inventory, all of which has been made by proceeds from the apiary, and we find

THE INCOME.

from the apiary to be over $200. If we divide this by 19, the number of colonies with which we began the winter, we find the proceeds to be over $11 per colony.—Divide by 15, the number of colonies with which we began the season, and we find the net proceeds to be $14 to each colony. In the above account I have not counted my own time. Every other expense of whatever kind is included. My own time was mostly spent in conducting and directing experiments. In fact, much more labor than was necessary to care for the bees was paid for by money from apiary receipts, and hence considered in the above account.—All labor and expense on beds of experimental plants, amounting to nearly $40, all labor on other experiments which were being conducted through the season, all labor in improving grounds, amounting to about $10, are noticed on the expense side of the above account, and not at all on the side of receipts; so that the above estimates of $11 and $14, as the net receipts per colony, is rather too low than too high. Our net proceeds for the year is about 50 per cent. of our entire capital at the beginning of the year.

We have taken 321 lbs. of comb honey, and 667½ lbs. of extracted honey. The former has all been sold or contracted at an average of 20 cts. per pound; the latter at an average of 15 cents.

CONSTRUCTION OF HIVES.

Early in the season we procured a Barnes foot-power saw, an an expense of $35, with which we have made all our hives, frames, etc. This is not only very desirable, but it, or some similar machine should be considered indispensable by any apiarist who keeps more than 20 colonies of bees, and desires the best success. If it is desired to unite the sides of the hive with a beveled joint, this permits it; and not only this, but the joint is perfect. The same is true as to the joint between the different stories of a hive. In preparation of frames, too, in fact in all the carpentry of the apiary, this makes it easy for any one, with a reasona-

ble degree of caution, to have perfect accuracy and uniformity—those most desirable characteristics—of all the apparatus of the apiary. I have also had, during the season for honey gathering,

A HIVE SUSPENDED

by spring scales. This was a new colony, of not more than average strength. During the white clover season this showed on some days an increase of 7 lbs., and once of 8 lbs. During basswood gathering, 2 or 3 lbs. was the maximum; while frequently, after very wet days, of which there were many, there was an actual loss of one or two pounds. During the interim of honey-secretion, between basswood and fall bloom, there was a steady loss of 1 or 2 lbs. per day. The showing during the fall bloom was similar to that during the basswood. The scales showed graphically, what observation had demonstrated long previously, that continued wet weather is not conducive to honey secretion. The scales also showed that when active, as in summer, even though no brood is being reared, the consumption of honey is much greater than during the quiet of winter.

We practiced during the season the Dadant, the Alley, and all other methods we have heard of,

OF INTRODUCING QUEENS,

and have nothing to change in what we said in the manual of the apiary, and in the report of the State Board of Agriculture for 1875 on this subject. Early in the season we prepared several more stands for bees, with evergreens for shade, and brick and saw-dust for a foundation.

BEE-SMOKERS.

We have used three smokers during the season; the Quinby, the Bingham, and the A. I. Root. It was the unanimous decision of my class, my able assistant and myself, that the Bingham smoker was superior. It seems strongest, has a superior draft, and troubles very little by going out and requiring re-lighting. It also stands up better, having a broader base than does the Quinby, and is much more convenient in form than the A. I. Root.

MARKETING HONEY.

We have experimented quite largely in reference to marketing honey, putting honey, both comb and extracted, in the market in various forms. Nor were we satisfied with a trial of one dealer, but we tried various dealers, and even went to other towns. Extracted honey was put up in fruit jars, jelly cups, Muth's honey jars, and delivered in large tin cans. As to labels, we tried putting them on the vessels and also making large, neat labels and framing them. These labels gave the kind of honey, grade and apiary. We were very particular to grade our honey closely; first-class meant just that. We also secured comb honey in boxes, six inches each way, with glass sides, in large wooden boxes with glass ends, in section frames one and two deep above the brood chamber, with tin separators, with thin wood separators, and in case of one tier deep, the commodious wooden separator of Mr. Severson, of Randallsville, N. Y. We thus had opportunity to test the values of the different separators.

THE CONCLUSIONS

on these various points are as follows: We can create a demand for extracted honey, greatly to our own and the purchaser's advantage. Extracted honey sells best in jelly cups. A large label in frame is best. In delivering honey, no pains should be spared to have everything neat. Thorough grading, too, in quality and price, is very important. To invite customers, the honey should not be granulated, and to secure the best results, each grocer should be made acquainted with the means of re-liquifying, and told specially not to apply too great heat, as this injures both the flavor and appearance of the honey. To best secure the desired end, the granulated honey should be placed in a vessel, and this placed in a second vessel containing water, which should be heated to about 175° fahr., or even 200° fahr. will do no harm. If the honey vessel is placed in the other, and all heated on the stove, some bits of wood, or a saucer must be placed underneath the honey vessel to prevent its getting too hot.

Comb honey, unquestionably, sells best in small section-frames, and, beyond question, more can be got in this form than in boxes. To hold these small frames, we should have large frames just the size of our common frames, except that they should be two inches deep. The small frames should be of such a size that 4 or 6 would just fill a large frame. Dr. Southard, of Kalamazoo, makes a very convenient rack to hold the sections. The small frames will sell best when they hold about one pound. If it is not desired to have more than one tier of these small frames above the brood-chamber, then Dr. Southard's rack, or the patented arrangement of Mr. Severson is very convenient and admirable. In this case, the top bar is 2 inches wide and serves as a top to the 2, 3, or 4 small frames that hang below. Between these hangs a ⅜ inch strip of clean, white pine, which reaches not quite to the bottom, just leaving space sufficient for the bees to enter the frames. On the top of this thin strip is tacked a half-round strip, ½ inch across the bottom. This, by resting on the top bars of two adjacent sections, keeps the thin strips, or separators from falling, and the bees from passing above. These wooden separators served as well as the tin separators of Betsinger sections, so far as we could see.—In both cases it was rare to find the comb glued to the separators, and if we are satisfied to have these small frames but one deep, I think they are cheaper and more convenient.

I tried the method of Mr. Baldridge, of St. Charles,—uncapping the honey,—to induce the bees to carry it from the brood chamber to the boxes, with very admirable success.

COMB FOUNDATION.

This was used with considerable success during the entire season. For guides, using it 2 or 3 inches wide, both in the brood-

combs and in the surplus frames, it is a grand success. If it could be so made as not to sag, and thus used in the brood-chamber as foundation for all the comb, so that we could secure perforce all worker brood-comb, it would be a still greater advantage. We must reach this. I fastened the foundation by simply pressing it to the wood. I used the artificial comb foundation for sections with the happiest results. Epicures, even, did not detect the difference, and so of course found no fault.

We proved again the great

VALUE OF THE EXTRACTOR.

With proper use, it will pay for itself in a single season, even with no more than two colonies of bees. A thorough trial of the Muth extractor convinced us that it was inferior to A. I. Root's, which we still think the best of the many we have seen tried.

We had 3 of

THE RUSSELL HIVES,

made by A. H. Russell, of Adrian, in use all the season. These are certainly no infringement on the Langstroth, though I find in Bevan on the Honey Bee, a description of essentially the same thing. These hives are very good, though hardly as convenient as the Langstroth style. Without any guides, the combs were all built perfectly true. There is no difficulty in separating the combs, though in putting them together some time and caution is required to avoid killing bees. The claim of superiority for out-door wintering I shall test the coming winter. We have also tried Mr. Russell's box, which only differs from the Isham frame in the mode of fastening the tin corner. As a box it has no superior; and as the width may be varied so as to contain 3 combs, 2 combs, or 1 comb, it is convenient, and perhaps has no superior if it is desired to have the comb surrounded on both sides and ends by glass. A rack like Dr. Southard's, permitting the removal of all these boxes or frames at once, would be a valuable addition.

HONEY PLANTS.

We have experimented farther with honey plants. Having had beds of mignonette, alsike sweet, alfalfa, also called Lucerne and Spanish trefoil, yellow Bokhara, Italian or scarlet trefoil, white Dutch, or white and yellow trefoil clovers, Rocky Mountain bee-plant, or cleome, white and black mustard, which we have bought for two years under the name of dwarf and tall Chinese, catnip, motherwort, rape, borage, sainfoin, and silver-leaf buckwheat. Of these, the following can hardly be recommended too highly: White clover and alsike, in bloom all through June and into July. Mignonette and sweet clover in bloom as early as June 22, the former continuing the year, and the latter for a month, and both yielding bountifully of the most delicious honey. This year was unfavorable and our mignonette did very poorly, yet from the reports of others and our experience in former years, I heartily recommend it. Both of the above are admirable for their exquisite perfume, which renders the atmosphere delightful for long distances.—White Mustard blooms in from four to five weeks from planting, and the black mustard in 7 to 8 weeks. They are both excellent; swarming with bees, especially during the forenoon, through the entire season of bloom. The former continues in bloom about four weeks, the second some longer. Like borage, these seem less affected by climate conditions than most plants, being thronged by bees even after heavy rains.—Rape, much like white mustard, blooms in about 4 weeks after sowing. Borage commences to bloom, if planted the first of May or self-sown, the last of June and continues till frosts. Cleome, or Rocky mountain bee-plant, if planted early or self-sown, commences to bloom the middle of July, and continues for more than a month, yielding liberally of the most excellent honey. Catnip and motherwort deserve their high repute. The first commences to bloom late in July, the other late in June.—Silver-leaf buckwheat is only better than the common in that it yields better, and thus has more flowers. The other plants mentioned in the list seemed worthless as bee-plants. How much of this was owing to the unfavorable season, it is difficult to say. Early in the season several honey-trees were transplanted to our grounds, among which were hard and soft maple, basswood and crab-apples.

PLANNING FOR THE FUTURE.

The various methods of wintering, as described above, proved so successful that we shall practice each the coming winter.—12 colonies we shall put in the cellar, 5 we shall bury, 2 in Russell hives we shall not protect at all, and the 9 remaining colonies we shall pack in straw, varying our method as follows: Our hives are 1½ feet long and 1 foot wide. We shall make the sides of the surrounding box 2½ feet long and 2⅓ feet high at one end and 6 inches higher at the other. The upper, slanting edge is made by sawing a board 2½ feet long and 6 inches wide diagonally across from corner to corner. One end will be 2 feet long and 3 feet high; the other 2 feet long and 2¼ feet high. These sides will be made of 6 inch boards, fastened together by nailing cleats one inch from each end. These cleats will be on the inside and and will thus form shoulders at the corners. The sides will not be nailed together, but fastened by a staple and nail, so they can be taken down and packed away in summer. The east side of this box, opposite the entrance of the hive, will have a central opening, 4 inches square, with a square tunnel extending from it to the entrance. This will permit the bees to fly, and at the same time allow the hive to be entirely surrounded by straw. The top of the box will be made of matched lumber, fastened together by cleats as before, which will project over the ends of the box so as to hold the cover to it. The cover will incline to the south, while the boards composing it will extend lengthwise in the same direction. This box will cost $1.00; will permit flight, but from its entirely surrounding the hive and confining a layer of straw, densely packed, it is expected that it will prevent much flying, and thus

economize in the consumption of food.—Such boxes may be placed about the hive, even in winter if neglected earlier, with great advantage, only when crowding in the straw we should be careful to disturb the bees as little as possible. Putting bees in cellar duriag the cold of winter is never to be recommended.

Before closing this report, I must express my very high appreciation of my assistant for the past season, Mr. Fisk Bangs, a graduate of 1876, whose close attention to the experiments and needs of the bees, faithfulness in all his duties, efficiency in all the varied labors of the apiary, has made him a very valuable assistant. A. J. Cook.

Lansing, Mich.

For the American Bee Journal.

Chips from Sweet Home.

So far we have no plants that will pay to cultivate for honey. But there are several which pay well for the fruit and honey, and none better than the raspberry. A. F. Moon says of it in The Apiary, page 55, 'the raspberry seems to be a special favorite with the bees, and yields a very fine harvest.'—Langstroth, in his book on the Honey Bee, page 296, says, 'The raspberry furnishes a most delicious honey. In flavor it is superior to that from the white clover, while its delicate comb almost melts in the mouth... When it is in blossom, bees hold even white clover in light esteem. Its drooping blossoms protect the honey from moisture, and they can work upon it when the weather is so wet that they can obtain nothing from the upright blossoms of the clover. As it furnishes a succession of flowers for some weeks, it yields a supply almost as lasting as the white clover. The precipitous and rocky lands, where it most abounds, might be made almost as valuable as some of the vine-clad terraces of the mountain districts of Europe.' By planting a few varieties, bloom may be had from May 25, (with us), till frost. Among the earliest and most valuable are Davidson's Thornless, Doolittle, Purple Cane and Miami; next, Mammoth Cluster, Seneca, and Golden Thornless; and among the latest, Lumb's Everbearer and Sweet Home. (For a description of this, see our advertisement in this paper, under our old heading). Not only do these varieties keep up a succession of blossoms, from which the bees never fail to get honey, but the bee-keeper is certain of a crop of fruit every year, averaging from 1 to 10 qts. to the bush, which will contribute to health, comfort, and economy—save butchers' and grocers' bills, and make home pleasant.

HONEY BOXES.

What honey-box is Palmer going to use the coming season? One of my errands East, was to decide what honey-box to use, as I found the Harbison was behind the times for eastern markets. I now think of using a combination of a section, as used by A. J. King, and G. M. Doolittle, thus:—Top piece and two sides, 2 inches wide; bottom piece, 1¾ inches wide; top and bottom pieces, ¼ inch thick; sides, ⅛ inch thick. These are made ⅛ inches higher than Prize Box, to be used or packed in crate, to be glassed or not, with 5x6 glass, as the trade may determine. Shall hold together while on the hive, and carrying to and from by a strip of manilla paper 1¼ in. wide, put on with glue on each side, so to do as Doolittle does. Put sections in cases; but tin separators would be quite an expense for over 250 hives, consume much time, also, less honey stored; and these three items are quite important with us. Perhaps it pays better to get more honey and less cents per pound. Many speak of loving the bee business, etc. I love the pets, I like the business. Why? Because, there is money in it. Take the money from bee-keeping and it will become scarce.

Eliza, Mercer Co., Ill. D. D. Palmer.

For the American Bee Journal.

Experience of a Beginner.

"I commenced keeping bees about six years ago, in Fremont Co., Iowa, with about the usual experience of beginners. I bought bees in common hives, transfered to movable comb hives. Bought extractor, text and guide books, and subscribed for bee papers, etc. In the winter of 1873-4, out of 35 or 40 colonies, I had but 4 or 5 left; and only 1 or 2 of them in good condition.—The spring of 1877 found me with 30 colonies, Italians and hybrids; one-third of that number in medium condition, and the other two-thirds weak. The spring was cold and wet, so the bees got no honey from fruit blossoms and we had no white clover, so the bees had to be fed until the 1st of July, when sumach and basswood came into bloom. We got no surplus from this sourse, as the weather was hot and dry.—The bloom was of short duration, only yielding honey about 6 days, and from that time till Aug. 10, they made only about enough to live on; from that until Sept. 20, we got our swarms and surplus honey. I got a ton of extracted and 300 lbs. of nice comb, in frames and sections, and increased to 37. Would have had more increase, but worked against it all I could. I am without bees this winter, having sold my bees in October, in Fremont, and moved here.—I expect to go into the business again in spring. I think this is a better location for bees than Fremont. I think with the experience I have had I can make it pay better in the future than I have in the past. Talking with a man, claiming to be a practical, progressive bee-keeper here, a few days since, I remarked, 'Of course, you take the Bee Journal;' his reply was: 'No, I don't go anything on the Journals. I learn by experimenting. Those who write for the Bee Journals don't give the great secret of bee-keeping.' He left me to infer that he knew it about all; at any rate in his own estimation. Now, Mr. Editor, I am interested in this great secret, because it is the secret of success. We are all interested in it. We have been taking and reading the Journal, thinking we were getting this great secret along with the rest; but if we have been deceived, you must make amends immediately, by getting Harbison, Capt. Hetherington, Doolittle or some of

those bee men that have this great secret, to give it to us without delay. There can be no mistake about it, for this man has learned it from experience. L. G. PURVIS.

[Those who do not take the trouble to keep posted, by reading the accounts of the new experiments and ideas, as they daily come to the front—always *know it all.*—This is true in politics, religion, and every department of science. Hence we should expect these "know-alls" to be found, once in a while, among apiarists. But it is consoling that we have, perhaps, fewer than many other departments of science.—Those who really know the most are never wise in their own conceits. Having, by hard work, obtained the knowledge they possess, they view the vast sea of knowledge before them—and realize that they are yet close to the shore, with an unmeasured ocean of knowledge beyond.—ED.]

For the American Bee Journal.

Glucose or Grape Sugar.

In the January number of the AMERICAN BEE JOURNAL, Mr. S. C. Dodge narrates how starch can be converted into glucose or grape sugar. Liquid glucose contains only 33 per cent. of sugar. Solid glucose contains but 40 per cent. Therefore, it takes 3 pounds of liquid glucose to have an equivalent of 1 pound of cane sugar, (*dubeunfant, payen, malepeyre.*

Liquid glucose, at 3¾c. per ℔., including cost of transportation, is as dear as honey at 10c. Ten ℔s. glucose contains 3.30 lbs. sugar, and the price is $3.75. For the same price, we get 3¾ ℔s. honey, at 10c., and this honey contains 88 per cent. of sugar, or as much as 3.30 lbs.; just the quantity contained in 10 lbs. of liquid glucose.

Glucose can be produced in three different conditions: Liquid, solid and granulated. The production of granulated glucose is forbidden in france, on account of the facility of mixing it with brown sugar, which it resembles. In Europe they legislate against fraud. Here, our legislators can find no time to attend to *such small matters.*

To detect granulated glucose in brown sugar, dissolve some of it in water, and add 3 or 4 per cent. of caustic potash, and then cool the liquid. If the sugar contains glucose, the liquid will turn brown. Even as little as 5 per cent. of glucose can be detected by this means. Five cents' worth of caustic potash is enough for the experiment. Of course, those who buy brown sugar adulterated with 40 or 60 per cent. of glucose, pay very dear for a poor article.—Glucose is manufactured with sulphuric acid (oil of vitriol). This acid is removed with carbonate of lime, (chalk). But it is impossible to free, entirely, the glucose of the sulphate of lime produced, and a part of it remains in dissolution; sulphate of lime is pure plaster of Paris. Is such a substitute wholesome?

In France, glucose is manufactured with potato starch. This gives the best kind of glucose. It is not as bitter as that made with corn. When glucose was first manufactured in France, the hospitals of Paris resolved to use it to sweeten the beverages of the patients. But as the sickness grew worse by its use, glucose was abandoned.

Bees cannot live on glucose in winter, when cold weather retains them in their hives for weeks. Of course, glucose can be given in summer; but bees seem not to relish it, when it is mixed with honey; and as it contains only 33 per cent. of sugar, to feed it to our bees is a poor investment; for being 67 per cent. glucose, it does not serve as food, and fills their bodies with fæces, and dysentery is produced, if they cannot void these fæces. Besides, plaster of Paris has a deleterious action on their organs.

Glucose is sold in immense quantities in the United States; but never retailed by its real name. It is the same with the oil of cotton seed. Who has seen cotton oil in our market? It is caprera or olive oil.

Brown sugar, maple sugar, golden drips, golden sirup, maple sirup, confectionery, preserves, beer, wine, honey; in fact, all the produce in which sugar exists, or is used, are now adulterated with this drug, in the United States.

Is there not, in this country, some law to punish such crimes? If so, why is infringement so audacious, and with such impunity.

In every country of Europe there are officers appointed to examine the articles offered as food, in groceries, bakeries, drug stores, etc. Let bee-keepers obtain from Congress the appointment of similar officers, and see that they attend to the duties.

To sell our honey is now difficult. Why? Because our cities are flooded with honey mixed with glucose, and sold as pure! Of course, this article is no better than glucose sold as sirup, and sells slowly.

But suppose that all grocers, who sell glucose under a false name be prosecuted, what would be the result? Sugar sirup would bring a price in harmony with the quantity of sugar it contains, and our pure honey would sell readily at good prices.

We produce as fine honey as can be obtained in Europe. We can therefore sell our surplus there; but to obtain such a result, it is indispensable that we send a pure article. The honey dealers of Paris pay from 17 to 18 cents for white, strained, *sainfoin* honey; from 13 to 16 for white mixed; 9½ to 12½ for honey from Chili.—Then what kind of honey was sold by an American firm, at Breman, for the small price of 97 cents per gallon, or 8 cents a pound.—(See AMERICAN JOURNAL for December).

It is not by sending adulterated, or inferior articles that we will see the foreign markets opened to our products. European honey dealers will know that honey remains liquid only because it is impure or because it has fermented. The American dealers, who sent adulterated honey to England, made a costly blunder for them and for the Americans at large.

Let us all take steps to prosecute all the venders of adulterated honey, and our efforts will be awarded by good prices and prompt sales. CHAS. DADANT.

Conventions.

Honey Plants.

READ BEFORE THE MICH. CONVENTION.

Honey is not produced by bees; but collected by them from various plants and stored away for their own use in times when they are debarred from collecting, by the absence of the sweet nectar. It is during these times of idleness that the bee-keeper should strive to bring plants into bloom so as to give the bees an opportunity of working.

During White Clover and Basswood we need no extra honey plants, for they follow one another in quick succession; but it is between Basswood, Buckwheat, and the wild flowers that comes the great necessity for cultivated plants.

The past summer I have been watching closely some beds of honey plants, at the Agricultural College, with the following results:

ALSIKE CLOVER (*Trifolium Mybridum*).

Bees began work upon this plant May 30th, the same time that White Clover came into bloom; and continued in bloom for more than three weeks. During this time it was well patronized by the bees. They could be found upon it at nearly all times of the day. The great complaint among farmers is, that it lodges badly, and consequently is not good for hay. A remedy for this would be to mix the Alsike with either the common Red Clover or Timothy. Then the farmer would not only be benefited, but also the bee-keeper. *It is one of the first of honey plants*, and adds to the value of both pasture and meadow.

MIGNONETTE (*Reseda Odorata*).

Mignonette is a native of Egypt—comes to us by way of France and England. It is well known by every one as being one of the most fragrant of plants.

Early in the season our President made the statement that "Mignonette was one of the best of honey plants; that it commenced to bloom early and would last through the season. Bees could be found upon it at all times of the day in large numbers." Of course I expected great things of this plant, for the bee papers were all very high in their praise of its qualities. June 23 it began to blossom, and it was not until the 27th that bees began their work upon it. They did not seem to take to it very readily, for on every occasion that I made observations I found very few bees present. With us it proved a failure. Others have corroborated this statement. But from the bee papers of last year I take the following: "Bees work upon it to the exclusion of other honey plants. One-fourth to one-half of an acre will supply from fifty to seventy-five hives of bees." Again: "One acre will keep one hundred hives busy for a season."

With these statements all coming from good, reliable sources, we must say that the prospects are good for the future of bee men.

It is rather a delicate plant for this climate, and as this year has been a poor one for honey, it would not be safe for me to pass judgment upon it.

ALFALFA (*Medicag Saliva*), or, in other words, LUCERNE, or *Spanish Trefoil*.

It will stand our dry weather with great fortitude. The roots will go down in a dry time from six to eight feet, have a strong, woody stem—would do well for cattle, but for bees in our climate it does not answer. Not a bee has been seen upon our beds of Alfalfa. This plant would also answer well for green manuring; indeed, it would make one of the best of manures.

YELLOW BOKHARA.

In C. F. Lane's catalogue of seeds for 1878, he says: "This plant is a most excellent honey plant." May be all very well for Wisconsin, but for Central Michigan is no honey plant. Only three bees were seen during the whole season at work upon it. Let others give their testimony.

ITALIAN, or SCARLET TREFOIL (*Trifolium Incarnatum*).

Our beds did not come up.

Prof. Beal says: "It is rather tender for our climate, but further south it would grow, and might become a good honey plant."

MELILOTUS ALBA.

Some call it "Sweet Clover," and well they may, for its fragrance can be scented from afar, and from morning till night it is covered with bees. Commences to bloom the 22d of June, and continues in bloom until July 22d.

It is one of the best of honey plants, only it comes at the same time with White Clover and Basswood, and is not needed at that time. It is a biennial, so that it does not blossom until the second year, and then dies. Its bloom cannot be regulated by man.

WHITE DUTCH CLOVER (*Trifolium Repens*).

Commonly known as White Clover. It comes into bloom about May 30th. Some one stated early in the season that they thought it would lap upon Basswood; but I found that it lapped through and nearly around it.

There is no need of dwelling at any length upon this plant, for it is known the wide world over as a *honey plant*.

CLEOME (*Integrifolia*).

Usually termed Rocky Mountain Bee Plant; but as Cleome is shorter, sweeter, and in every respect more easily spoken, so in the future let us use this word, Cleome, instead of that long and ungainly term, "Rocky Mountain Bee Plant."

Our seed failed us. There were, however, a few plants on the embankment south of the bee-house, which did nobly. It is good for low ground—comes into bloom quite early. Other men who have had experience with it, say it is one of the best honey plants.

YELLOW TREFOIL.

No good as a honey plant.

MOTHERWORT.

Began to bloom about the 20th of June. On the 27th of June the bees commenced to work upon our bed. They seemed to take to it more readily in the afternoon. It will last until about August 1st. It is one of our needful plants.

ESPARCETTE, or SAINFOIN (*Onobrigchis Sativa*).

Hardly hardy enough for our climate.

CATNIP (*Nepeta Cataria*).

Commences to bloom about the 20th of July, and lasts until about the 1st of September. The honey is clear and beautiful. As it comes into bloom about the time Basswood goes out, it is of importance to bee-keepers. Bees work upon it readily.

WHITE MUSTARD.

It began to bloom about June 7th, and lasted nearly a month. The bees commenced work on the 11th; on the 19th the bees were so thick that their hum sounded something like Prof. Cook's buzz-saw, lacking the screech. This is one of the best of honey plants, and I think its bloom can be easily regulated by man so as to have it come after Basswood.

BORAGE (*Borrago Officinalis*).

The period of blooming is from June 20th to cold weather. Where there are no plants for bees to work upon, Borage does very well; but when White Clover and Basswood are in bloom, bees will forsake the Borage for them. As cold weather begins to come, they swarm to the Borage. It is a good honey plant, when there are no plants of greater importance in bloom.

FALL BLACK MUSTARD.

Commences to bloom about the 4th day of July, and passes out about the middle of August, so that it is in bloom when most needed. Early in the morning it is loaded with bees, and they will work *en masse* until about eleven o'clock, when their numbers begin to grow less, and at nightfall hardly a bee is to be seen upon it. Its bloom can be easily regulated by man, by sowing either earlier or later in the season, and can safely be classed among the best of honey plants.

RAPE.

Can be made to bloom to suit the pleasure of the one sowing it. It comes up very quickly, comes into bloom soon after it is up, and will last about three weeks. The bees swarmed to the bed of Rape, worked well all the forenoon, and then left for more profitable fields in the afternoon.

From the December number of The Gleanings in Bee Culture for 1876, I have taken Prof. Beal's article on honey plants:

"I am frequently asked to identify or give names to certain plants upon which some person has seen bees at work. This does not usually occupy much of my time, especially if the specimens are well put up, as most of them are known at sight, or after a few minutes' examination.

"But the thought occurs to me, of what benefit can it be to the person sending the plant to know whether it is *Aster Machrophyllus*, *Aster Prenanthoides*, or *Aster Grandiflorus;* whether it is *Solidago Petiolaris*, *Solidago Canadensis*, *Solidago Missouriensis?* My examples are some which are included in the list lately received. Of Asters, we have in the Northern States 41 species, beside 40 to 100 more which resemble them to a person unaccustomed to botany. Of *Solidago*, or Golden Rods, we have 37 species, and some others which resemble them. Scarcely one of these has a separate or common name. Asters look too much alike to be distinguished from each other by any one but an expert. The same is true of Golden Rods and a vast number of other bee plants. They will get the species and even the genera 'all mixed up.' Even the botanist gets some of them mixed occasionally. Our country is renowned for the abundance and variety of the Asters and Golden Rods in September, till the hard frosts appear. These are found in open or unwooded regions, in swamps, along streams, and on the prairies. The fact is, there are nearly a hundred times as great a variety of flowers which furnish bees with food, as most people imagine. On checking off for a noted bee-keeper, who wanted to make a list of bee plants, he seemed to be surprised at the great number, and said he only wanted the best of them. Which are the best? The forty-one asters are all good. In one locality certain species abound in great numbers; in other places, some disappear and others take their places. To be sure, there are some Asters and other plants affording good honey and pollen, which rarely exist in large numbers. The same is true of Golden Rod and many other plants. I suppose a plant is desirable if it exists in quantities large enough to afford much food during a long period, or if it affords food a certain time when most other flowers are scarce.

"I have made the action and behavior of insects on flowers a study for years. Some flowers are only visited in the morning or forenoon, as the dandelion; others in the afternoon, others at all times of day when not raining. I tell no news, that Basswood and Raspberries afford good honey, while the Tulip Tree and Lobelia afford honey which is unpleasant or unwholesome to some persons.

"The *Ranunculaceæ*, Crowfoot family, afford us 30 species or more upon which bees work; some of them open early in spring. The *Cruciferæ*, or Mustard family, about 70 species; *Malvaceæ*, or Melon family, over 20 species; *Geremaceæ*, or Geranium family, 13; *Anacardiaceæ*, or Maple, &c., 11; *Leguminocæ*, or Pulse family, 110 or more native, besides some exotics; *Rosaceæ*, or Rose family, 83, and several exotics; *Saxifragaceæ*, or Saxifrage family, about 30; *Caprifoliaceæ*, Honeysuckles, &c., about 30; *Compositæ*, Sunflowers, Asters, &c., perhaps 325, besides many in cultivation; *Lobeliaceæ*, Lobelia family, 13; *Campanulaceæ*, or Bell Flowers, 7; *Ericaceæ*, Heath family, 60; *Scrophulariaceæ*, Figworts, about 60; *Verbenaceæ*, Verbenas, 10; *Labiateæ*, Mints, many of much value, 78; *Borragineæ*, Borage family, 28; *Aselepiadaeeæ*, Milkweed family, 25; *Polygonaceæ*,

Buckwheat family, 38; *Liliaceæ*, Lily family, 50. Besides these, there are many where there is only one or two, or a few in a small order, perhaps not far from 570. Then, probably, there are a hundred or more about which I am uncertain. If I have added correctly, I give, above, about 1,775 species from which bees get more or less honey or pollen. These grow east of the Mississippi river and north of Kentucky, in the United States. Some, like the grasses and pines, have no showy or fragrant flowers, and afford little or no honey. As a general rule, those plants which produce odorous or showy flowers afford honey and will be visited by honey bees, unless the flower is of a shape which makes it impossible for the bees to reach the food.

"It would be a great source of pleasure, and in some cases perhaps a profit also, for every bee-keeper to be a good botanist. In fact, every person should study botany more or less, as any one can if he only tries and perseveres. The culture it gives, the enjoyment, the discipline, all place botany in a high position as a science."

In summing up the cultivated honey plants that I have had under my personal supervision, I find that those of most importance to bee-keepers, where there is no Basswood, are: Alsike Clover, White Clover, Melilotus Alba, Motherwort, Catnip, Dwarf Chinese or White Mustard, Black Mustard, Borage, Rape, and Mignonette. Indeed, they are all good for any region of country.

The question of honey plants is of such vast importance to all bee men, and in my opinion one season is not sufficient for it to be worked up thoroughly and placed before the public, as the seasons differ to such an extent.

FISK BANGS.

Scientific Bee Culture.

ADDRESS BEFORE THE WASHINGTON COUNTY AGRICULTURAL SOCIETY AT SOUTH HARTFORD, N. Y., JAN. 10, 1878.

Inasmuch as some of our most acute searchers into the hidden wonders of the insect world, have, with enthusiasm, devoted their lives to the profitable study of this wonderful insect, I venture to intrude into the usual discussion of stock and crops, to present a few facts in relation to bees and honey.

From the progress of the past few years, it is not too much to expect that the honey interest will yet rank beside the other great farming industries of the day. We are led to this expectation, from an examination into the statistics of honey production, and the sources of supply by which we are surrounded.

From careful observation and from the experience of others, it is safe to say that an average of 500 pounds of honey could be obtained from every square mile of our county; and deducting one-half of this for poor seasons, drouth, etc., and then our 850 square miles would produce over 200,000 pounds, while the provision of artificial pasturage would greatly increase it.

To those unacquainted with our honey resources these statements may seem to be overdrawn, but we have at hand reliable figures from various localities in our own State, where the production is over 1,000 pounds per square mile. While California, noted for its wonderful productions of soil and mine, has localities where there seems to be no end to the flow of this abundant sweet.

While localities are thus being developed, individual effort is progressing in a remarkable degree, and we have reliable reports of single swarms producing as high as 500 pounds, and whole apiaries averaging nearly 100 lbs. to each swarm.

These results are obtained only through unremitting watchfulness and labor, and the adoption of modern improvements.

The first improvement over the old straw hive was substitution of the surplus boxes, from this sprung the well known invention of the Weeks' patent hive of our grandfathers' days.

The next great step in advance was the invention of the movable frame hive by Langstroth. The discovery of this principle opened up a new world of study and observation for the naturalist and apiarist. For, previous to this, many of the habits of the bee, and its domestic arrangement were enshrouded in mystery. A hive constructed upon this principle contains several frames or cards of comb which can be readily removed and examined, thus giving complete control of the occupants.

Soon after the invention of this hive, the good qualities of the Italian bee were discovered, and importation of improved stock was commenced; and at present the active golden Italians are superseding in many localities our common black bee. And now, like our poultry fanciers who have improved their breeds from all parts of the world, our importers are searching all continents and isles of the ocean for new and larger races of bees. And the coming season will witness the importation of bees from Java and Borneo.

The great advantages sought after in new races of bees is a longer proboscis, that will enable the bee to reach honey that hitherto has been unattainable, but which is so abundant that the honey yield would be doubled, and it would become the cheapest and most abundant sweet known.

The next improvement which marks a new era in bee culture was the invention of the honey emptying machine, or extractor. Previous to this discovery, liquid honey was obtained by breaking the combs with all their impurities and squeezing out the honey, which always tasted rank with bee-bread. With the extractor the comb is not broken, but where the honey is thrown from it, the emptied comb is returned to the hive to be refilled by the bees. A single card of comb can be used thus until it is black with age, still the honey thrown from it is as clear and pure as when gathered from the flower. Now when we find that it takes from fifteen to twenty pounds of honey to produce one pound of comb, we have in the extractor a great economizer. Wax is a secretion from the honey after it is eaten by the bee, and resolves itself in thin scales on the abdomen, from whence it is taken by the young bees and used in comb-building. Thus, every pound of empty comb supplied to the bees, is equal to many pounds of honey for the bee-keeper. A third more honey can be obtained with the extractor than of comb honey. And each particular yield can be kept separate. We have in our county, three great sources of honey: White clover in June, basswood in July, and buckwheat and other dark honey in August and September. Our whole yield is crowded into about three months, and owing to drouths and other dispensations of nature, the yield is sometimes cut down to one month, or perhaps but a few days. It is, therefore, possible, with our machine, to keep our beautiful white clover and basswood honey separate, and our buckwheat and other dark honey by itself. California

produces honey of beautiful quality from white sage, and from Florida we have honey from orange blossoms.

After the demonstration of the beautiful theory of emptying the combs by centrifugal force, one would suppose that the apiarist would rest content for a season. But the spirit of improvement which possesses alike the whittling Yankee Josey, and the profound scientist, urged the bee-keeper to still further demonstrations of his skill, and the very latest invention which has been successfully tried during the past season is the manufacture from beeswax of artificial comb or comb foundation; this is given to the bees in beautiful yellow sheets, and is readily worked out by them into comb and filled with honey.

I have thus briefly explained some of the most important improvements in bee culture, and the great problems that are now receiving the attention of the progressive apiarist, is to both increase and cheapen the product, making it an article of necessary use in competition with cane sugar, and an article of export to foreign countries. American honey is proving superior to European honey, and a demand has been already created.

With extracted or liquid honey the bee-keeper has met with many difficulties, one of which is adulteration, but the greatest is the ignorance of the purchaser. The distinctive peculiarity of honey to crystallize or candy has been a detriment to its sale, while that very quality alone of all others should recommend it to the consumer. Nearly all pure liquid honey will candy, and in that condition will keep for years; and the application of a little heat at any time will render it liquid again.

It has been said that our land flows with milk, it should further imitate the promised land described in sacred history, and flow with both milk and honey. We have within the tiny flower a spring of delicious nectar, and wherever its humble lot is cast, either upon our hill-sides, in our forests, or around our very doors, the air we breathe is made fragrant with the evaporation of its wasted sweetness, wasted for the want of our tiny insects to gather it.

JOHN H. MARTIN.

Hartford, N. Y.

Good Queens—How to Get Them?

READ BEFORE THE ADDISON CO., VT., BEE-KEEPERS' ASSOCIATION.

Ever since the Italian bee was introduced and raising queens for the public became an object, a disposition has been manifested by each breeder to make the public believe that his queens were the only good and pure ones to be found in the market. While this may have bee true in some cases, it is my opinion that very many poor queens have been sent out at high prices, and at the same time the queens may have been pure Italians. I will here consider briefly what constitutes a good queen.

FIRST.—A good queen should be a PURE ITALIAN, not of the lightest hue, as I prefer a dark queen or one that has dark progeny, as I consider the dark ones better box workers. She should be large and lively. I speak of their being lively because I find some bees are like some men—rather moderate—they move about as though they were lazy, and so I find them, particularly the workers.

SECOND.—A good queen will comence to lay early and lay abundantly all summer until late in the fall. You may say that any queen will lay early if she has sufficient quantity of bees. Very true, a good queen will produce long-lived and hardy bees and therefore will always have a strong swarm, hence the necessity for breeding such queens.

THIRD.—A queen should produce workers that are good honey gatherers, (and for me good box workers,) and for this purpose I prefer a large and strong bee. I find a great difference in the size of worker bees. Some queens produce small bees. Small bees are not so good box workers and they are more apt to sting. I find that queens reproduce themselves, and would not therefore breed from such queens.

FOURTH.—I like a queen whose progeny are quiet and of a mild disposition, so that when you take out a card of comb from the hive the bees will remain quiet and not run from one side of the comb to the other, and at the same time give you four or five stings before you get through looking them over. I would also have bees prompt to defend themselves against robbers.

FIFTH.—One of the best qualities of a good queen, in my opinion, is a non-swarmer; one that is contented to stay at home and attend to business. Such a queen will produce bees that will store their honey in boxes and leave the brood chamber for the queen to lay in, consequently keeping the combs full of brood and the colonies always strong in workers. Such a queen will most invariably produce good box workers. You have, no doubt, all of you, been puzzled at times to know why certain swarms did not go into the boxes, while at the same time they were as strong and even sometimes stronger than their neighbors which were working readily in boxes. I have had such experience, and have come to the conclusion that it is in the strain we breed from. All strains have their peculiarities, and we should therefore consider all of these POINTS when breeding queens.

I had but three queens last year that I would breed from. I have but one of them left now, but I have a number of young queens that I hope will prove to be what I call good ones. There are many other points on this subject that I might speak of, but for fear of being tedious, I will pass to consider briefly

THE BEST MODE OF RAISING QUEENS.

In this as in other branches of bee-keeping, I do not claim to be an expert. I have never raised queens for the market; I merely raise for my own use. I can, therefore, only give my mode, and to this branch of the business I have given much thought and have come to the conclusion that it is best to breed with great care.

1. I would not breed from a queen until I had summered and wintered her, or in other words, not until she is a year old and even two years are better. At that age I have had a chance to test her good qualities—which should be many. Another reason why I prefer an old queen to breed from is, she has become more mature, and consequently her progeny will be hardier and longer lived, queens as well as workers. I do not see why this rule does not hold good with the bee as well as with animals. I therefore would not breed from a young and untested queen. I believe that all of the above good qualities can be attained by careful breeding.

2. There are many ways of raising queens. Some prefer to raise them in full colonies, others, for economy raise them in nuclei, and claim that they are as good as those raised in full swarms. For my part I see no difference as long as nature is complied with. They are as good and perfect, if raised in nuclei as any other way. In fact, I prefer to raise my queens

in nuclei because I can then watch them and know that they are raised from the egg. In this way I do not have any nine-day queens, but where they are raised in full colonies the bees are liable to start queens from larva that is three or four and even five days old. Such queens are worthless. I am positive of this, for I have tried them to my satisfaction.

I raise my queens by taking a card or two of hatching brood and young bees from a hive that can spare them (no eggs or larva), put them in an empty hive and leave them twenty-four or thirty-six hours, then I take a strip of comb with eggs from breeding hive, cut say one inch wide and three or four long, and fit it in one of the brood combs already in the nucleus hive, leaving an inch space under the eggs for the cells to hang in them after the bees have formed or started queen cells, which will be in twenty-four or forty-eight hours. I add to them a card of larva, as they use larva for feeding queen larva (or making royal jelly as it is called). In from eight to ten days the cells will be capped, and in twelve to fifteen days they can be cut out and inserted in any hive desired, or put in the hatching box if you have no use for them for a day or two.

This is one way to raise queens, and I like it as well as any, as it is very simple and easy, and I am sure not to have any nine-day queens. There are many other ways that I might mention but for the want of time. Now, in conclusion, let me repeat, *Breed only from your best queens.*

Bristol, Vt. A. E. MANUM.

Comb Foundation in Surplus Boxes.

READ BEFORE THE N. E. CONVENTION.

Mr. President and Gentlemen:—My prolonged stay in Michigan will prevent my presence at the Convention, I regret my absence, as there will be questions presented of vital importance to the industry.—Prominent among them will be the subject of Artificial Comb Foundations.

I have had no reason to change my views as expressed before the National Association in October, but the importance of one feature of the subject, only alluded to there, has so grown in my mind, as to warrant bringing it before the Convention, viz:—The use of comb foundations in surplus boxes. The importance of the subject extends beyond the present self-interest of any new business to the broad field of a rapidly-growing national industry. That the subject may be discussed in all its relations to the future of comb honey, before its use shall become general, seems to me of great importance; for in such discussion, considerations may be presented that will prevent a hasty verdict, to be regreted in the future, and suggestions offered that may change the views of those who hold such relations to the business, through the press, as to affect greatly for good, or otherwise, depending on the views they advocate.

I concede there may be a little present profit by the use of foundation in surplus boxes, but regard it as trifling, compared to the damage it may work in the future market of comb honey; but even now, there are honest experimenters, who question any profit in such use of it. While I consider the utility of the invention, as regards its use in the breeding apartment a problem already solved, I cannot but be solicitous of the effect in the future, if its present use is urged by all, without other than present considerations.

Our products must come in direct competition with other saccharine food, which now have a well-established place in domestic economy and trade. To supplant these in any measure, we must have an argument.

We are certain of the one, of its beauty and delicious taste; and if to this we can add that of *purity*, I see no reason why we cannot take the field.

There are, at present, few articles of food, of this class, to which the stigma of adulteration is not fixed. Prominent among them are the syrups, sugar-house, silver and golden drips, etc., which now are so much used on the table, and with which our extracted honey must come into most direct competition.

These syrups, at one time, brought a high price; but of late have been so cheapened by adulteration that they are considered by many, even dangerous, owing to the presence of sulphuric acid remaining in the glucose, with which they are adulterated.—Glucose being the product of corn-starch, treated with sulphuric acid.

Such experiments as those made at the Michigan Convention, will educate the people to these facts.

Extracted honey, from its nature, will be liable to such adulteration; and we already see the effect on the market, by this cry thus early raised against it. Therefore, I know of no duty so great, especially to those who undertake to direct the interests of the industry, as that of guarding our products from stigma.

One great problem of the future will be the protection of extracted honey from adulteration; and for this, the united action and wisdom of honey-producers will be required. For it certainly will be "doctored," to a great extent, unless some steps are taken to prevent it; for it certainly opens as fruitful a field for profit in its adulteration as do the syrups. And would it not be well to take some initiative steps soon, to "nip it in the bud," as it were, before it gets of large proportions. All will concede that virtue is the art of protection, and so I make the burden of this paper such action in regard to comb honey, that we shall not put in the hands of our opponents a weapon, in the future to be used against us; and to this point I bring the subject of this communication.

Let any bee-keeper of experience, contemplate for a moment the purity of commercial beeswax, or, what is more to the point, a quantity of refuse comb, before it is adulterated. Containing, in addition to other impurities, dead bees, in various stages of putrification; with moth worms, all sizes, dead and alive, together with their excrement,—and this to be cooked together in a kettle of water, until the savory extract has thoroughly flavored the beautiful yellow wax, destined to become a delicious morsel, and component part of comb honey. And, in case your own stomach is not

effected, I ask, cannot such a picture be used by our opponents against us?

We must keep comb honey free from the impression that it is other than the pure, beautiful food God has made it, working through the wonderful instinct He has planted in these little creatures.

But let the impression once go forth that it is otherwise, that it is "doctored," that it contains anything of questioned purity, that the beautiful comb is not the work of wonderful instinct, but a thing gotten up by machinery in any sense, and you have deprived it of an interest to the consumer, that must effect the sale of it as an ornament and luxury to the table.

The time may come when it will be calculated as an article of food, like beans and potatoes, simply for the amount of nutriment it contains. But that time is not yet.

Commercial men, whose business can be changed at every emergency, dropping this article they buy and sell, and taking up another without serious loss; or manufacturers, with a present self-interest, may advocate its use, but the producer, who has taken up the industry as a life business, cannot, for a trifling consideration, afford to affect its present standing as a strictly pure and beautiful article of food.

Of the few pure things that can be offered to the public, as such, let this one of comb honey remain permanent among them, as the one most delicious in flavor, beautiful in its purity, and of great interest, it being the product of wonderful instinct.

Some one may say that all wax is not made from such stock as described. If not all, I think there are but few bee-keepers but what have seen such as described rendered into wax. Others, that when foundations are used the bees reduce the thickness to that of natural comb.

And again, that they have been used in surplus boxes and the product sold without complaint. To the latter, I would call attention to the small chance of any complaint reaching the ear of the producer, and to the fact that few consumers know of any attempt to suplement nature. But publish the fact that such a thing is introduced, and *that* a substance of questioned purity, I venture it will be found, and what has been called a "fish bone" will be unpleasantly reported. While at times the bees reduce the center quite thin, all who have experimented know that very often, especially if the weather is cool, they leave it as thick as when introduced.

For fear that some may misunderstand me, I will say that I most heartily recommend its use in the breeding apartment, and believe it to take rank with the movable frame and extractor, the three great improvements of the age.

If there is profit in its use for surplus boxes, there is no bee-keeper in the country more favorably situated to reap such present benefit than myself. But appreciating in some, small measure the great future interest at stake, I shall refrain from its use, until careful thought and experiment shall have determined to what extent it may be used without the chance of inflicting an inseperable damage to the industry.

J. E. HETHERINGTON.

Over-Stocking.

READ BEFORE THE N. E. CONVENTION.

Brother Bee-Keepers of the North-Eastern Bee-Keepers' Association:

Though the above subject is somewhat neglected of late, still I feel that it is one that most of us will have occasion to think of before many years pass by. It seems that the mind of man is well calculated to harbor accommodating theories, even unto a settled belief. When we wish one to believe in our heaven, we do not *try* to *prove* its existence, but we present in as glowing style as possible, to his imagination, the joys and beauties of that country—and he *believes from choice.*

Now, writers devoted to the different branches of agriculture, of which bee-keeping is one, take advantage of this same weakness in us, their scholars, and treat us to such errors as these: "This business is the most profitable one known to man;" "Can't over-do it;" "Hundreds of colonies can be kept in nearly every locality without *over-stocking* the field;" "Thousands of pounds of honey yearly go to waste," &c.

It has been the business of the trinity of reason, observation, and experience, called *science*, to root out these accommodating theories, and place in their stead some *hard facts*, some of which are not just as we would like them to be. It has been the crowning glory of the nineteenth century to prove the indestructibility of matter, and the eternal persistence of force. Thus we see that sweetness of any sort or kind has never "gone to waste." Maple trees tapped for many years lose their power to yield sugar. The honey not gathered last season, is to-day somewhere in nature's great reservoir, awaiting the coming bee. (Cyprians, no doubt.)

How many colonies can we most profitably keep in one place? Every one knows that we can care for a number of colonies in *one* apiary with much less expense and labor than in *two* or *three* apiaries. An apiarist whose judgment we all respect, last fall "brimstoned" over one-half of his colonies. Another successful bee-keeper said to me: "The ease of overstocking is little understood by honey producers."

My friend, W. J. Davis, of Youngsville, Pa., whom we very well know to be a bee-keeper of extraordinary skill and opportunity, writes me as follows: "Your ideas of 'over-stocking' *I know are correct*, as applied to this locality. I can secure *more* surplus honey from 50 stocks (spring count), than from 100 in the same locality. I have now 100 in my home apiary, all heavy and in fine trim for winter, and but for considerations of humanity, I could net the most cash within a year to kill one-half of them, using the combs and honey for young swarms next season."

I would kill the queens about twenty-one days earlier, and brush off the remaining bees at the end of the honey season, sell the honey, and lay away the combs for the next year.

I expect to see this method extensively practiced by honey producers. It will pay

us better in the end than to sell off our surplus stock. Such a course will greatly improve our stock, and secure us safety in wintering. I have in my possession several other letters from worthy apiarists, stating about fifty colonies as the most profitable number of stocks to keep in one locality.

Now comes the question, What area constitutes a "locality" for the apiarist? My bees go south four miles and bring in basswood honey rapidly when the yield is good. I find my bees three and a half miles north of the apiary, working on golden rod, of which a book bee-keeper would say, there was enough for 1,000 colonies within the first mile in that direction. Even if we *can* beat the bees making comb, we haven't yet been able to keep them close at home. They seem to *think* they know their "little biz," and something about where honey is still remaining in the blossoms!

My apiaries are six and a half miles apart, and yet are close enough. I have every evidence that I have seen bees from each apiary on the same plant. There are not a dozen colonies near either apiary belonging to other parties. If I wish to gather only one bushel of walnuts, I prefer a ten-bushel pile to scoop them out of, to a scattered bushel under a ravaged tree. Let some "go to waste." It takes longer to find the *last drop* than the *first bucket full*. You will recollect that those large *pro rata* yields come from apiaries of few colonies.

The practicability of running more than one apiary, is a matter of doubt among many of us who are trying it. Could the instinct of swarming be exchanged for an equal amount of energy in the boxes, capital could find a broad field in apiculture, that might pay a satisfactory per centage for a few years to come.

I will pay $100 for an individual right to the use of a practical apparatus that will hive my bees in my absence, such machine not to cost more than a good hive, and I will furnish one for each colony. The above sum I will give to get a part of my bees out of the way of the other part, at the same time securing the increase without an every day's attention.

In my opinion, I have now bees enough to stock at least four locations—in all, 250 colonies. Now, I am confident that our fields and markets here will not afford a hired hand for each apiary during the busy time of year that we need one to hive swarms. Now, if the above ideas are conceded *correct*, can we, any of us, fail to realize the importance of selecting a location for an apiary where few or no bees are kept by others, and in maintaining such a condition of affairs as long as possible.

I fully believe that nearly the entire honey crop of the future will be raised by *specialists*, and we need not crowd each other to the detriment of both parties so doing, as our broad country affords far more good locations for our favorite pursuit, than coming demands for honey will warrant us in occupying.

I hope these scattered ideas may draw out sharp criticism and friendly discussion, which I may hereafter read in THE BEE JOURNAL, and from which receive personal benefit.

JAMES HEDDON.

North-Eastern Convention.

The eighth annual convention of the North-Eastern Bee-Keepers' Association was held in Syracuse, N.Y., on Feb. 6, 7 & 8, 1878. Vice President, G. M. Doolittle in the chair. J. H. Nellis, the secretary, called the roll, after which the minutes of the last meeting were read, and Mr. Bacon corrected, by stating that the report concerning comb foundation was intended to apply only to the use of it in boxes. The report as corrected was adopted. Mr. Bacon, the treasurer, read his report, which was accepted and adopted.

Many names were added to the Roll, for the coming year.

L. C. Root, E. D. Clark, and N. N. Betsinger were appointed a committee to have charge of the question drawer.

J. H. Nellis was appointed to examine and report upon the minutes of the National Convention, held in New York last October.

W. E. Clark, L. C. Root, and C. D. Jones were appointed a committee to consider a proposed amendment of By-laws, Art. IV,

DISCUSSIONS.

"*Will it pay to cultivate any crop with the sole view of producing honey?*"

The chairman thought it doubtful whether it would pay to cultivate any crop for that purpose. He lived in a section where nature furnishes the desired blossoms. He did not think it would pay to grow teasels, as these are in blossom at the same time as the basswood, and it is very laborious to grow them.

How, then, can teasel honey be distinguished from basswood? The bees seem to prefer working on teasels; and hence, when we see them at work on teasels and neglecting basswood, we naturally infer that they are making teasel honey. The latter is clearer and more translucent.—Teasels grow anywhere that winter wheat will do well. There is no other flower in basswood time that makes as clear honey. Sumac makes a yellower honey, and blossoms earlier. In the fall of 1872, he fed sugar to his bees; since then, he has not fed them at all, but reduced his swarms when they were not strong enough to winter well.

Mr. Longstreet found alsike clover good for honey. It afterward made excellent feed for horses. He did not know of a crop that it would pay to cultivate exclusively for honey.

Mr. Bacon asked the best means of preventing bees from swarming. He tried hiving the young swarm, and set it by the old one, and afterwards destroyed the queen-cells, and re-united the swarms. So far as tried, this had proved successful.—The main object is to prevent swarming the second time. The first is admissible.

Mr. House, of Fayetteville, had for 8 or 10 years, practiced artificial swarming a few days before the bees would naturally swarm, and seldom failed. Clipping the wings of the queens was unsatisfactory.

C. C. Van Dusen favored artificial swarming. It is important to give ample room, and get the bees to work early.

The chairman, about 8 days after swarming, when 1 queen has hatched, clips all the

other queen cells. In his experience, if he clipped the cells in advance of the hatching of 1, the bees provide for raising an unusual number of queens. If we have a good honey season, there is little trouble about swarming. In poor seasons, nothing will prevent Italians from swarming. Removing all but 1 virgin queen does not entirely prevent swarming.

Mr. House.—When bees get a swarming fever, it is hard to subdue them.

Mr. Nellis has a house apiary, and never had a swarm issue from it. Last summer he had 15 swarms making box honey.—They gave him about 60 lbs. of box honey each. The house is octagonal, and holds 68 swarms. It is lined with building paper, and never becomes extremely hot. He thinks excessive heat makes bees swarm.

Mr. Betsinger's bees swarmed the most in the poorest seasons, 1866 and 1876. A lack of honey causes swarming.

Dr. A. H. Marks found that his bees swarmed most in the honey-producing seasons.

The chairman wanted to know if the bee papers are right in favoring consumers and dealers instead of the bee-keepers, who are their patrons. He then read an extract from the *Bee-Keepers' Magazine*, calling for the sacrifice of the glass on the small boxes.

Mr. Bacon thought it was ungenerous on the part of the papers. The only profit in the small box is the glass. It is a mistake to gather honey in less than 5 or 6 lb. boxes.

The president thought such papers did not deserve the support of bee-keepers.—He read from one that hoped honey would come down to 5 or 6c. per lb., so that every one could afford to use it.

Mr. Nellis thought the demand would decide the form of the package. If it is wanted in glass, it will be put in glass; if in any other form, that form will be adopted. Rich people want it in glass, and care not about its being weighed in. It protects the honey and keeps it clean.

Mr. Snow concurred substantially with Mr. Nellis. He thinks he has created a home market for extracted honey, and he can make the most money out of it.

S. M. Locke thought the buyers of honey know that they get honey in the box by gross weight, and, therefore, there is no fraud, as intimated by the *Bee-Keepers' Magazine*. It costs more to make honey in small boxes. If the consumer wants it so put up, he must pay for it.

On motion, G. M. Doolittle, L. C. Root, S. M. Locke and W. E. Clark were appointed a committee to consider the conduct of certain bee papers, and report what action this Association ought to take in regard to the matter.

EVENING SESSION.

Several new members were received. The Convention then discussed:

"*In what manner shall we use the surplus funds of the Association to best promote its interests?*"

It was moved by Mr. Root to send out blanks about August 1st, to be filled out by members and returned to the secretary, who will in return forward the information thus obtained about the products to each member. It was maintained that this would furnish a basis for regulating prices and aid in successful marketing.

Mr. Bacon showed that, as matters now stood, small producers, who make no business of honey making, too often make the price, by taking to market honey out of season and accepting the first offer. If properly posted, there would be a better chance for having a paying home market. But prices must not be above the reach of the consumer. Consumption must be encouraged, and the middlemen must be content with a fair profit.

The chairman and Mr. Betsinger could get only 16 cts. a pound offered by a wholesale dealer in Syracuse. They sold in New York for 24 cts., and saw two-thirds of their honey go to Philadelphia at 28 cts.

Mr. Betsinger would give $25 a year to get accurate statistics of the honey product. The different organizations might obtain it, if an effort was made.

Mr. Root was in favor of getting such information, and was willing to pay for it.

"*Is grape sugar valuable as food for bees to winter upon?*"

Reports are afloat, said the secretary, that experiments had been successfully made in its use. Is it prepared in the form of a syrup?

Mr. Root had seen an experiment. In this case the grape sugar was put in a dry state in the top of the hive and all honey removed. This was in 1872. The bees lived only thirty days. They lived three months on dry loaf sugar.

The chairman had found the syrup from grape sugar to candy in a few hours or days. Mixing honey with it retarded the candying process. He had never fed it.

"*What will be the effect upon the honey market of adulterating honey, and shall we countenance it?*"

It was agreed that the effect was uncertain. The secretary said some people would not buy candied honey, supposing it adulterated, when candying is a guarantee of purity. If it must be kept from candying, it must be adulterated.

"*What is the best method to promote early Breeding?*"

The chairman knew of no way to get a hive full of bees in March, or even as late as the 25th of May. He can get a new swarm the latter part of June, by furnishing plenty of uncapped comb, full of honey.

Mr. Locke said the largest swarm he ever had was a natural one, on May 10th.

The practice of spreading comb and supplying new has worked well with Mr. Root. He uses a very large frame. But this practice must not be carried too far. After apple-blossoms pass away he had often been compelled to feed heavily. We should see to it that there is always capped honey in the hives. We should not put bees out too early. He would not put them out before the soft maple is in blossom.

The chairman said it is a disadvantage to have the hives full of bees before there is any work for them to do.

Mr. House does not believe there is any advantage in early stimulation.

Mr. Van Dusen believed in having a good supply of honey for food. He frequently uncaps comb in the early part of the season. Heat should also be economized.

Mr. Betsinger would remove honey from the comb, put comb in empty, and thin the honey with water for feeding.

Mr. Root said care must be taken to give bees a supply of water.

Mr. House—In "spreading" great care should be taken by those not well posted.

THURSDAY, FEB. 7.

Vice Pres. Doolittle in the chair.

The Committee on Constitution and By-Laws reported in favor of making the membership continuous instead of having to be renewed from year to year. Adopted; and the alterations in Constitution and By-Laws ordered.

On motion, the Convention recommended all bee-keepers to sign the petition, now circulating, requesting Congress to so amend the postal laws as to permit the sending of queen bees through the mail.

The Committee on Bee-Papers reported the following, which was adopted:

Whereas, The *Bee-Keeper's Magazine* has unjustly charged bee-keepers with fraud in selling honey in glass boxes, and *Gleanings in Bee Culture* is depreciating the value of honey to the detriment of producers, and

Whereas, Most consumers demand that honey be sold in glass boxes, while it is evident that honey cannot be produced at the depreciated value quoted in *Gleanings*, and

Whereas, Said periodicals have taken arbitrary measures to the detriment of those interested, while we recognize the periodicals devoted to apiculture to be the mediums through which both producer and consumer should receive mutual benefit; therefore,

Resolved, That the North-Eastern Bee-Keepers' Association, now in session, do emphatically disapprove of the course pursued by said periodicals.

The secretary read a paper on overstocking, by James Heddon, of Mich.

Mr. Bacon said flowers come and go quickly. We need bees enough to gather the honey when it is ready, or it is wasted. If we have not enough to do this, the locality is not overstocked. He does not think 150 colonies will overstock a favorable locality.

Mr. House: Much depends on conditions. Some localities will sustain 150 swarms, while others would sustain few or none. As an average, 50 swarms are sufficient for one locality.

Mr. Root thinks that in any location, take the season through, 25 swarms will do better than 100. Yet, in some localities, with proper care, 200 or 300 will do well. He thinks there are 500 in his locality. But the larger the number, the more likely the necessity, at some portion of the season, for feeding. He favored locating in unoccupied sections.

Mr. Betsinger: Much depends on care. He has proportionately better results from a larger number of swarms than he formerly had from a smaller number.

Mr. Doolittle thought that the question of overstocking depended very much on the care or the want of care. He could not think 50 swarms would overstock a circuit of eight miles diameter.

Mr. House has had some apiaries, with the same care, yield 25 pounds to the swarm and others 100 pounds of honey. Much depends on pastures as well as on care.

Mr. Bacon wanted to know which swarms had the advantage of pasture.

Mr. House said he thought his home apiary, which made the poorest yield, had the best pasture. He laid their failure to overstocking.

Mr. Nellis thought that when all the circumstances were taken into consideration there would be less appearance of clashing in the experience of different beekeepers. When conditions are right, bees gather honey very rapidly. They do all their work within six weeks, at intervals during the season.

Mr. Betsinger thought overstocking impossible, as he could demonstrate by figures.

Mr. Perry had hunted wild bees, and had never yet captured a bee that had flown much over two miles. It takes a bee thirty minutes to go two miles, load itself and return, when it takes its honey from a box. It cannot, therefore, go four miles and make honey to any profit.

Mr. House's experience was similar to that of Mr. Perry.

Mr. Locke read the following address on

OUR OBJECT AND OUR MISSION.

Mr. President and Gentlemen:

Why have we met here? Are not our State and National Conventions the mouthpieces of bee-keepers, organized for their use and benefit? If so, we have met here to debate and decide upon the most remunerative management for the apiary.

How, then, can we best fulfil this mission? By presenting new ideas, and criticising all those introduced in a candid and gentlemanly manner. In this way can we obtain the information desired, and present the same to the thousands of bee-keepers who are looking to us for it—though unable to be present and take part in our deliberations.

The time has come when it is necessary for the apiarist to be the embodiment of system, and his apiary must have the best supplies and most competent help; and must be carried on systematically.

Profit in apiculture means hard work, and plenty of it. Instead of a few old gums and box hives, and brimstone for the bees in the fall, and *no* management—the present demands the best movable-frame hives, with large capacity for surplus, simple in construction, and admitting of ease and speed in handling. One that will winter well on summer-stands without further packing or protection; with entrance easily contracted or enlarged, and with a brood chamber that can be expanded at will.

Comb honey must be placed upon the market in neat boxes and good crates, and extracted honey in such a way as to drive all adulterations out of existence.

The people must be educated as to the value of honey and its uses, as well as how to keep it from granulating.

Consumers demand glassed honey-boxes filled with the nicest white comb honey. If this Association should adopt a standard box, and all members should put their honey into it, I believe it would further their interests vastly.

The suggestion of our President as to the gathering of statistical matter concerning crops, &c., in August is a good one, and should receive our earnest attention.

The great advance that apiculture has ta-

ken within the past two years ought to cheer and encourage us to renewed exertions for its welfare.

As our honey is gathered in about six weeks, it is essential that bees should be easily and rapidly handled; they should be in good hives and kept strong in numbers, with good queens, and then the best results may be expected.

With comb-foundation, one-third of the labor of comb-building is saved, and with the present prospect of the introduction of new races of bees during the present year—to infuse new blood into our stocks—when we meet again I hope we shall have good reports to make of the season's success.

Salem, Mass. SILAS M. LOCKE.

The nomination and election of officers followed:

President—L. C. Root, of Mohawk, received 42 out of 51 votes, and was elected.

Vice President—George B. Seeley, received 19 and G. M. Doolittle, of Borodino, 29, with a few scattering votes. Mr. Doolittle was declared elected.

Secretary—J. H. Nellis, of Canajoharie, received a unanimous election as secretary.

Treasurer—R. Bacon, of Verona, was unanimously elected.

Honorary Vice Presidents—W. E. Clark, George T. Wheeler, E. F. Wright, and C. C. Van Dusen.

AFTERNOON SESSION.

The retiring president, P. H. Elwood, read the following, as his

ANNUAL ADDRESS:

In an old book we read of a good time coming, when "swords shall be beaten into plowshares and the spears into pruning-hooks." But in neither sacred nor profane lore do we find allusion to the time when the latter shall be converted into that weapon which is said to be "mightier than the sword"—the pen! This, however, is the the modest task you impose on your country in calling for an address.

As we meet again after the successes and reverses of another year, I think it may be well to inquire why so many have come up to our annual gathering, at so great an expenditure of time and money? Are the receipts expected to counterbalance the expenditures? I apprehend this may be the expectation, for, although our business possesses other attractions, and an opportunity for mental work and improvement not found in other out-door occupations; nevertheless, bee-keeping, with the majority, is a matter of dollars and cents. So-called philanthropic motives may urge a few to sustain an association of this kind, but with the great majority "the bread and butter question" is a greater incentive.

What are some of the benefits to be derived from our Conventions? First, the social element is one that cannot easily be over-estimated. The hearty hand-shakings and greetings are expressive of a sympathy not to be recorded on a lettered page. This sympathy encourages us to extra exertions, sustains us in difficulties, and helps establish a class pride that is beneficial. A comparison of the results of the year's labor, prompts us to a good-natured rivalry, and a comparison of the ideas advanced in debate often arouse trains of thought that lead to important results. At our Conventions we meet those who contribute to our literature, and we judge of their ability and reliability, which helps us much, in future reading, in separating the wheat from the chaff. The written part of our Conventions is valuable, as coming from some of our most practical and successful apiarists, some of whom do not contribute to our Journals. The unwritten part is still more valuable. We usually gather together with some problem to solve, some point of practice on which we have not had enough experience to decide. We propound the question to those of more experience, and we come away confirmed or cautioned in our course of procedure. We talk of supply and demand, of over-stocking the market and over-stocking the land, and in a way not always encouraging to dealers in supplies. We sometimes question the propriety of advising every one to go into a business in which so much more has been lost than made, and in which, even at the present time, more goods are produced at a loss than at a profit. In short, we are at perfect liberty to express our views as we please, with "no one to molest or make us afraid."

Ex-president Bacon last year recommended co-operation in marketing honey, and in some form it undoubtedly is destined to produce the most satisfactory results. Many of us are annually compelled to market our products before knowing much about the aggregate production. Without this information we have no way of judging what the price should be. I suggest that measures be taken at this session for collecting statistics of the next crop in time for use in marketing the same. With suitable blanks furnished each member of this Association and to those honorary members who might be appointed and who would consent to collect statistics of the yield in their vicinity, we might be informed in August as to the total production throughout the country. This information would be of very great service to us all, as our markets are annually very much injured by parties who sell below the market price.

Our markets are also much injured by placing goods upon them in an unmarketable shape. This considerably lessens consumption, and I again assert, that it is to our interest to have the best packages used by all. Especially should we affirm, that the Eastern market prefers glassed honey. It presents a finer appearance, and in the retailer's hands the loss from breakage is so much less, that many dealers will handle no other. When you read, please remember that a very strong interest is at work in the East in building up a trade in unglassed California honey. I am sorry to say that one of our bee-publications is aiding in this work by recommending unglassed honey.

Whatever may be your conclusions as to the merits of comb foundation in the brood chamber, I trust you will return no uncertain verdict as to its use in surplus honey receptacles. That commercial beeswax is fit to eat no one familiar with its manufacture will affirm, and it is not expected that passing it between two corrugated rollers will affect its character in this respect, It is also well established, that bees do not sufficiently thin it. Heretofore comb-honey has been one of the things that could not be

adulterated. It cannot now be, except by bee-keepers themselves! Shall that ever be?

Hoping that this session may be entirely harmonious, and that it may be as profitable as it is pleasant, I append an article you asked me for, two years ago, rather than to enlarge on some other topics I had expected to mention. P. H. ELWOOD.

President Root then took the chair. Mr. Doolittle read the following paper on

COMB FOUNDATION:

I am well aware that in presenting the facts, as given below, I shall be censured by those having comb foundation to sell, and perhaps by a few of our practical apiarists; but, as they are facts, just as I found them to be from practical experiments in my own apiary, I give them, being willing to bear the censure of a few, if I may be of any benefit to the many.

My first experiments were conducted in 1875, with foundation purchased of John Long, of New York city. The foundation arrived nearly at the close of the season, and as the weather was cool at the time, the result was quite satisfactory; we have some very nice specimens filled in boxes, with but little sagging. Although the foundation was not properly thinned, I had great hopes for the next year, as I thought with warm weather, the bees would properly thin the base of the cells.

The next season, 1876, I purchased a small lot of A. I. Root, of Ohio, and used it in hot weather; but was completely surprised to find, that while the bees did not thin it out any more than the previous season, it sagged so as to be entirely worthless; some even pulling apart after being filled with honey. But Mr. Root came to the rescue, by telling me that I had been experimenting with paraffine, instead of wax, as the foundation he sent me was made of paraffine, instead of wax.

He then sent me some, declaring it to be made of pure wax, but as the season was far advanced when it was received, I had but little chance to ascertain much about it, except that the bees did not thin the base of the cells a particle. They simply worked out the wax that was raised for the sides of the cells, leaving the base untouched, and although the weather was cool, it sagged some. So far, my experiments had all been confined to the boxes.

As I had some very nice wax of my own, I sent it to Mr. Root during the winter of 1876-7, to be made into foundation, 5 cells to the inch, for breeding purposes. Heretofore, most of the foundation had been made 4½ cells to the inch, which was neither worker or drone size of cells. In due time the foundation arrived, and my former ambition to make it a success returned, as I now had foundation known to be of pure wax, and made 5 cells to the inch.

As early as possible, in the spring, I filled some frames very nicely, taking the precaution given in the BEE JOURNAL to leave it ¾ of an inch from the bottom bar of the frame and ¼ of an inch from the sides. A center frame was taken from a medium colony, and one of foundation put in place of it. After waiting 17 hours, I looked to see how the bees had made it, when, to my dismay, I found the comb torn apart, leaving only a portion of it in the frame; the greater part being in a mass, at the bottom of the hive. Not at all daunted, I put several frames in weak colonies, so as not to get so great a weight of bees on them at first, before the cells were drawn out.—These were not torn apart, but sagged so badly that the combs were all bulged, and rolled under at the bottom. Next, I shortened them up, so as to come within 1½ inches of the bottom of the frame. These sagged so as to just touch the bottom bar of the frame; and, upon measuring the cells, we found them to be 3½ one way, by 5 to the inch the other.

Meantime, Mr. Root was writing us to know the result of our experiments, so we sent him one of these combs. He wrote us back, that although the comb was the worst case of sagging he had ever seen, yet even as it was, it was better than natural comb would average! Didn't my hair stand on end, to think what combs my brother bee-keepers were using, while I had more than a thousand combs in my yard as straight as a board, with 5 cells to the inch, each way! I wrote him for a comb, built from foundation, the best of any he had; upon receiving and measuring it, I found it had sagged, so that the upper half averaged 4½ cells to the inch, by 5 the other way. This comb was in a Langstroth frame and was left ¾ of an inch from the bottom when put in, but had sagged so as to touch the bottom bar. As this was one of his best, I have a right to make a few figures on it.

When the foundation was put in the frame, it was just 5 cells to the inch, as the bees make theirs; having ¾ of an inch from the bottom bar—¾ of an inch, the whole length of the frame, is lost by this sagging process! As the Langstroth frame is about 17 inches long, we have 12¾ inches of loss to every frame, above what the bees would lose if they built it in the frame! As there are 10 frames in the Langstroth hive, we lose on the whole hive 127½ square inches, and as each square inch, if occupied with brood, would give 50 worker bees, we lose 6350 bees every 21 days; or, in other words, it takes just as many bees to brood these combs as it would natural comb, giving 6350 more bees every 21 days, or about 40,000 during the season! In early spring, when brooding bees are few in number, this loss of bees is quite an item.

We have also experimented with foundation in boxes, the past season, and by leaving it ½ inch short at the bottom, we had them filled so as to look very well; but when we come to the thinning process, we have yet to see a comb that the bees ever thinned the base of.

When we had visitors, we would purposely put honey on the table, built on foundation, to see them cut it. When the knife came to the base of the cells it was sure to stop, and, as a general thing, the cells on the under-side would mash down before the base would be cut. They generally asked: "What kind of honey do you call this?" It was laughable to see the rolls of wax laid on the sides of the plates!

I have also proved to my satisfaction that

there is but about 2 days' difference in the time of filling a box, in the honey harvest, between a starter of natural comb and a box filled with foundation.

Thus far, I have said nothing about the expense of foundation, as compared with natural comb. As all parties agree that natural comb of worker size is just as good for the brood chamber, and drone size for the boxes, as can be obtained with the use of foundation; therefore, if we can produce natural comb for the same outlay of money, we have something that is just as good, (as admitted by all), as foundation, and I claim far superior to foundation, in its present state of perfection. From experiments conducted the past season, I am confident we can produce more square feet of natural comb than can be purchased by foundation for the same amount of money. I can buy a swarm of bees for from 3 to 4 dollars, transfer them to a frame hive and produce from 25 to 50 square feet of comb from them, according to the season, with no more trouble than is required to fuss with the foundation; besides, this is one of the best schools for a beginner to learn apiculture in!

Thus I have simply given the facts as I found them, and would advise all to experiment for themselves with a pound or two of foundation, and then, if they wish to use it, they can purchase more largely. I expect to have my wax worked up again this year for further experiments, and if I can devise any means to prevent its sagging, I shall consider it an acquisition for the brood apartment, to get all worker comb, *but for nothing else!*

I think no one should be enough of an enemy to himself and honey-producers generally, to use foundation in surplus boxes to the injury of our honey markets. Any one can satisfy himself that bees do not thin the base of the cells, by taking two pieces from the same sheet of foundation, large enough to fill a box. Fit one into a box, and reserve the other. After the box has been filled with honey, shave it down to the base, wash it and compare with the reserved piece; and, if any one can see any difference between the base of the two, it is more than I have ever been able to do!

I have not said that bees in Ohio do not thin the base of foundation, for I have never kept bees in Ohio; neither have I said that honey-buyers, in the city of Cleveland, would not prefer honey built on foundation, for I have never sold honey in Cleveland; but I do say, that if the use of foundation, as heretofore made, is persisted in for surplus boxes, it will ruin our honey markets here in the east.

G. M. DOOLITTLE.

President Root would not countenance the use of artificial foundation in the production of box honey, but thought there is gain in using it in the production of extracted honey.

Mr. Van Dusen had more confidence in its use in the brood chamber than anywhere else. He found the quality of the wax made quite a difference about sagging.

W. E. Clark had unfavorable experience with foundation. His bees tore it down, or else it fell of its own weight. It did better in the brood chamber.

Mr. Perry asked "if the sagging of artificial foundation enlarges the cells, what would be the effect on the characteristics of the bees hatched therefrom?"

No one answered.

Mr. E. D. Clark spoke from experience. He found that the machine made the arch on the wrong side; it gave no support. He finally got some foundation that gave complete satisfaction in the brood-chamber. About one queen in fifty rejects it. He thought as a rule it is not made heavy enough.

Mr. Doolittle had found that bees build their cells at all angles—sometimes with the angle up, and sometimes with the flat side.

Mr. Warner produced a sheet of comb, built from yellow foundation, from which Mr. Nellis cut specimens, which demonstrated that bees do thin artificial foundation. He cut out a piece where the comb was over an inch thick, upon which the bees had not added a particle of their own wax, in other words, the comb was perfected entirely from the wax supplied in the foundation. He prophesied its general adoption. Yellow wax will be made into sheets so thin and perfect that its use will not be detected in comb-honey, and said the action of this Association will be a source of amusement to the reader of the future. If hives are properly shaded, he does not think there will be any trouble about sagging. He has no difficulty in using it.

A paper from Capt. Hetherington, of Cherry Valley, on artificial foundation, was read by Mr. Ellwood.

Mr. Bacon now, as last year, condemned the use of artificial foundation in surplus boxes. Consumers do not want to chew beeswax. In the brood-chamber it is well enough to use artificial foundation.

Mr. Ellwood had no success in using foundation in his surplus boxes. From this fact and his observation, he thinks it one of the biggest humbugs of the age. He does not think it worth what it costs for use in the brood-chamber.

The following resolutions were then adopted:

Resolved, That we, the members of the North-Eastern Bee-Keepers' Association, in Convention assembled, after another year has passed in experimenting with comb foundation, do hereby reiterate our verdict of last year, that we do most emphatically condemn its use in surplus boxes.

Resolved, That the use of comb foundation in the brood-chamber be recommended.

Mr. Curtis, of Utica, gave the Convention the following statistics, showing the production of honey in the State in 1874, according to the last State census: In the State, 1,469,318 pounds, of which the county of Steuben produced 109,319 pounds; Onondaga, 77,336; Ontario, 69,179; Otsego, 56,862; and Cayuga, 47,448 pounds. The total production of honey in the State in 1869, according to the United States census, was 896,286 pounds. Our State production of maple sugar in 1875 was 9,272,702 pounds, and 240,023 gallons of syrup.

Adjourned to 10 A. M., Feb. 8th.

[The last day's proceedings and the statistical table will be given in our next issue. —ED.]

Foreign Notes,

GLEANED BY FRANK BENTON.

A new edition of Dr. Dzierzon's work, "Rational Bee-Culture, or Theory and Practice of the Silesian Bee-Keeper," has appeared.

With the title, *Schlesische Bienenzeitung*, the apiarian society, of Silesia, Prussia, has recently founded a journal to be devoted to bee-culture.

Two foreign journals say that the chimney swallow destroys large numbers of bees. Similar statements may be found in the works of Virgil, Nikol, Jacob and Von Berlepsch.

☞A. Gadillot, Bordeaux, France, writes: "The French produce very fine honey, but as far as the style is concerned, they are away behind that of the United States. I therefore hope for a fine exhibition from the U. S., at the Paris World's Fair."

"With him who possesses no knowledge of bees, or natural fitness for the work, bee-culture succeeds only as long as the bees thrive of themselves without culture. When this is no longer the case, the usual verdict is:—'I have no more *luck* with bees.'"

G. DATHE.

ERRATA.—On page 40, of the AMERICAN BEE JOURNAL for January, Herr Cori is made to say, "I like the liberty of expressing my views here," instead of "I take the liberty, etc." Instead of $1825, a decimal point between the 1 and the 8 makes the annual salary of S. H. Rykeus $1.852, a sum that would likely no more than supply that worthy native of Holland, and his family with a fair amount of salt for the year.

The apiarian journal, formerly known as *Der Elsæssische Bienen Zuechter* appeared in January, under the title, *Der Elsæssisch Lothringische Bienenzuechter* (*L'Apiculteur Alsacien Lorrain*), with the announcement that the apiarian society of Alsace, and that of Lorraine, had been united, and with a hearty greeting to all the members of the Society of which it is the organ, to its numerous contributors, and to its exchanges. Success to this interesting periodical.

Baron Von Berlepsch.

In a memorial of Baron Von Berlepsch, R. Mayerhœffer, editor of *Bienenvater*, of Bohemia, remarks:

"Berlepsch's apistic and general knowledge was colossal; he was an admirable master of the ancient languages, Latin, Greek, and even Hebrew. What a pity he lacked the knowledge of modern languages! His views were narrowed, for he was deprived of the apiarian knowledge of other cultivated people; he valued too highly that of the Germans; and so, unwittingly, he helped to increase the German bee-keepers' self-esteem, for which, however, he received few thanks."

In closing, Herr Mayerhœffer says: "If we glance over the work of Berlepsch, we must admit that it constitutes a marked epoch—not only for the bee-culture of Germany, but also for the whole bee-keeping world. Berlepsch will ever be held in remembrance, for he has reared for himself a monument that outlasts marble and iron. As long as bees exist and man cultivates them, so long will the name of Berlepsch be heard."

At its coming session, the Agricultural Society, of France, will order a silver medal for the discovery of the most efficacious and easiest method of decreasing the brimstoning of bees.—The most certain way of getting rid of the practice of smothering bees, as well as getting rid of briars, dog-grass, etc., is to scatter information widely.—What would throw the most light upon the subject would be the publication of a succinct treatise on the rational method of managing bees, to be circulated extensively. In the year 1777, *l'Academie imperiale et royale des sciences et belles-letters* of Brussels, wishing to extend apiculture, brought up the question of the best methods in the culture of bees. They gave time and means to the subject. In 1779, there appeared three works, which are still of greater value than some pretentious books, published in our day. These works were put in print, and their circulation was secured by fixing the price low. The Agricultural Society, of France, which contains all the prominent agriculturists, has here a good example to follow.—*L'Apiculteur*.

ARTIFICIAL POLLEN.—The *British Bee Journal*, in referring to the kinds of flour which can be used as substitutes for pollen, gives the preference to that made from peas.

Exhibitors would like to know at what time they should send articles to the Trocadero. It is difficult to say.—The structure, which is to contain the products placed under Class 83, will not be constructed until the close of winter. It is probable that exhibitors will be notified to send articles early in April. A large number of industrial exhibitors have addressed to the Minister of Agriculture and Commerce a petition, which raises an important question, relative to the organization of the jury of awards for the Exposition. The following is the text of this petition: The undersigned, French exhibitors, at the Exposition of 1878, have the honor to request that the French members of the Jury of awards for this Exposition be, (at least, the greater part of them), nominated for election, by the exhibitors themselves, as is the case with those of the fine art department. They hope that you will permit this manner of proceeding, which, guaranteeing independent and competent judges, would put the jury beyond the reach of unjust criticism and accusations." We think that a great majority of the exhibitors in Class 83, will unite in this proper request, upon which it will, no doubt, be adopted.—*L'Apiculteur, Paris.*

The following question was asked at the twenty-first convention of German and Austrian bee-culturists: "What experiments have been made, since the last convention, with colonies of bees located in the open air without hives?"

After Herr Guehler had stated the results of his experiments with colonies of bees, situated without hives in the open air, he drew the following conclusions:

1. The lack of hives has *no* influence on the production and development of brood.
2. The yield of honey is not diminished.
3. There is no greater chance for robbing, as the robbers are quickly driven away.

The speaker dwelt upon the importance of this last point, because it indicates that one ought not to make the entrances very narrow, and that when robbing has already commenced it would be advisable to turn the hive about, in order to rouse the whole colony to action. But what is most important, in a practical way, is this:

4. Bees have no need of water during the winter. When they collect water, or when they search for it, is when they find themselves in an abnormal condition. They are able to preserve a medium and uniform temperature during winter, but the hive should be protected against dampness.

Dr. Dzierzon considered the experiments of Guehler interesting and important for practical bee-culture; not that one would be able, practically, to establish his colonies in the open air, without hives, but because these experiments prove that cold is not injurious to bees. Then, one can give some ventilation constantly.—*Trans. from a Foreign Report.*

L'Apiculteur says, relative to a report published in the *Journal de Saint Petersburg*: "At the meeting of the Economic Society, of St. Petersburg, held Nov. 24, the statements of Prof. Boutelerow, an expert apiculturist, were listened to with great interest. It appears that the bees of Italy, so praised by our apiarists, particularly for the 'mildness of their disposition,' are likely to be dethroned by bees which M. Boutelerow has brought from Caucasus, (to which place he recently made a voyage), and which are more productive and still more gentle in disposition than Italian bees. They wish to make of these bees an article of exportation, hoping for excellent profits from it; but, according to communication made to us, the managers of railroads object to transporting them. The Economic Society should have resolved to enter into conference on this subject with the managers of our railways."

APIS DORSATA. — Mr. Gravenhorst, of Germany, gives his opinion of the Javan Bee, as follows:

"*Apis dorsata* is not at all suitable for culture. Its honey is not particularly agreeable to the taste; then, too, it stores up but little. The combs of this bee are quite different from those of our honey-bee; it does not build them perpendicularly, but horizontally, after the manner of wasps and hornets. From this, it is to be seen that this bee can accumulate no great store.

"For this information I am indebted to Mr. Rykens, a Hollander, who was sent by his government to the island of Java. Instead of cultivating *Apis dorsata*, they propose to introduce the Italian and Cyprian bees there, and, to this end, these bees were sent, on the 2nd of October, 1877, to Java.—Rykens took with him 24 Italians, 2 Krainer, and 2 Cyprian colonies. He sailed by steamship from Helder, in Holland, and, *via* Suez canal, arrived at Java in seven weeks." C. J. F. GRAVENHORST.

Our Letter Box.

Lonoke, Ark., Feb. 11, 1878.

"I see Mr. S. Scott Hammitt asks where bee-pasturage is good and land cheap.—Here in Lonoke Co., anywhere on this beautiful prairie he can find what he asks for." I. D. LEE.

Boundary City, Ind., Feb. 1, 1878.

"I have 9 colonies, (3 Italians and the rest blacks), all but one in American hives, on their summer stands, covered with hay. Over the frames there is a double quilt and chaff cushion. Next season I shall make all two-story hives. The imported queen you sent me is a nice one; I am perfectly satisfied with it." D. W. KNOLL.

Milledgeville, Ill., Feb. 4, 1878.

"I am among the many who are glad that the AMERICAN BEE JOURNAL fell into the hands of those who have no 'hobbies to ride,' or 'axes to grind'—to make money by—well stealing others' inventions and selling without even giving credit to whom it is due. I am only expressing the views of many readers." F. A. SNELL.

Plainfield, Ontario, Jan. 16, 1878.

"I put into the cellar, one year ago last fall, 32 colonies; one I lost, and one was queenless in the spring; I doubled it with another, leaving 30. The increase was 32, sold four, have 58 in cellar in good condition. Last summer was not one of the best of honey seasons; basswood honey lasted but 6 days; the fall crop came in good. I sold my honey at from 12 to 12½ cts. per lb. I use the 'extractor'—no boxes. The principal sources of our honey are from white clover, basswood, buckwheat and golden rod."

ARCH'D PARKS.

Westfield, N. Y., Jan. 16, 1878.

"To winter bees with success, we must give ventilation, and yet, not have a cold current of air through the hive. I carry them in as soon as it shows signs of cold weather; open the box holes, and front entrance, and put the cap on the hive; put the hive where it does not freeze. I winter in a house with a wall one foot thick, and it never freezes. I winter with marked success; hardly ever losing a swarm. Bees did very well here, considering the dry summer." FRANKLIN HARDINGER.

Carlinville, Ill., Jan. 29, 1878.

"I commenced with two box-hives in 1867; got Italian queens for them; and bought 3 more box hives, in 1869. I worked along as I had time. (Have been assistant postmaster for 8 years, and have not had much time to devote to the bees). I raised many fine queens, mostly for my own use, but sold a few to persons in this and adjoining counties. I built a house apiary in 1875; last season, I got about 4000 lbs. of honey, extracted and comb, in 1¼ lb section boxes. We now have 95 or 96 colonies in the house, in good condition. We have a Barnes Saw, run by horse-power, which is the very thing for hive-making. We have used it 2 years. We have 500 section frames filled with combs, ready to go in the hives; also a foundation machine and all the modern implements for the business. I am now out of the post-office, and shall devote all my time to bee-culture. With over 10 years experience, and all my time, I have no fear of the result." J. M. VALENTINE.

Uniontown, Pa., Jan. 24, 1878.

"Having read the AMERICAN BEE JOURNAL from its commencement till now, I will say that I think it was never managed better than at present. Our honey season is only about 6 weeks. Our surplus is almost exclusively white clover honey.—During the short season good colonies will fill their hives, and from 6 to 12 boxes of surplus. Last spring, 2 May swarms filled 6 boxes each, and swarmed in June. I purchased Italians, 12 years ago, of Mr. Quinby. Three years ago, I got some of J. Oatman & Co. They have crossed with the natives, but work vigorously—though they are a little cross. I find much pleasure, as well as profit in the business. Our honey is superior to any I have ever seen, either east or west. I wish success to the BEE JOURNAL." J. T. SMITH.

Plainfield, Ont., Jan. 17, 1878.

"I saw in the July (1877) number of your excellent JOURNAL, an article, 'How to Prevent Increase by Exchanging Stands.'—I have tried the plan there recommended, by changing seven hives in one day, and find it 'works like a charm;' but feel convinced that it is more owing to the place where the hive is placed, than to the particular color of the hive. Bees are scarce in these parts, owing to the way which people will continue to keep them. I was asked, last summer, to examine some large hives, of a neighbor, and found them completely filled with millers and moths. The hives, I should judge, would have held from 100 to 150 lbs. of honey, each, and the loss sustained could not have been less than $16; and yet, Mr. Editor, is it not strange that people will persist in keeping bees to be tormented with moths and millers, and a 'brimstone pit?' Those who should receive the benefit are but idle spectators; apparently careless whether moths, millers or bees gain the supremacy and inhabit the hive. A neighbor of mine has kept a swarm for 3 years, and has not yet received one pound of honey from it. It is true, the bees have swarmed many times, and made large quantities of comb and honey; but as yet, there has been enough for the millers only, which have successfully driven out each swarm from its hive." A. PARKS.

Ashmore, Ills., Feb. 5, 1878.

"I have 52 stands of bees, Italians and blacks, in good condition, on their summer stands. I like the Italians best. I have been keeping bees for fifteen years, and have read many bee papers and books, but place THE AMERICAN BEE JOURNAL ahead, and don't see how I could get along without it. I wish THE JOURNAL could reach every energetic bee-keeper in the land." W. L. BOYER.

Borodino, N. Y., Feb. 19, 1878.

"I intended, at the beginning of the present year, to write an article each month, for all three of the bee papers, and, also, to answer all correspondence, but I am unable to do so, on account of a severe attack of the rheumatism. My correspondence has grown so large as to occupy from 2 to 3 hours every day, and, although it is pleasant to answer all questions pertaining to bee matters, yet my time and health will not permit. Therefore, I shall have to say "good bye" to our much loved Bee papers, and correspondents, for the present."

G. M. DOOLITTLE.

[We are sorry to hear ot friend Doolittle's indisposition, and trust it may be of short duration.—ED.]

Naperville, Ill., Feb. 13, 1878.

"I put 108 swarms of bees in the cellar, last fall; they have not been as quiet as in colder winters. I worked 50 swarms with tin separators between the sections, without guides, last summer; and found if I had not guides or starters 2 inches long, they were apt to build from one separator to the other, running the combs just the way we don't want them; and, of course, always attach them to the separators." C. KENDIG.

[Of course, guides are quite essential; a strip of wood, a little wax run along the centre of the top bar, or a *small* piece of foundation will be advantageous in any surplus arrangement.—ED.]

Fond du Lac, Wis., Feb. 9, 1878.

"Last spring, I bought 6 swarms, in box hives; transferred them into movable frame hives, of my own make.—double boxes, with frames 12x13 in. Transferring was done carelessly, and it set them back considerable. I lost 2 swarms, leaving 4 in all. I made, during the season, by using comb foundation, 14 good swarms, which are on the summer stands, surrounded with boxes, and packed with fine shavings. On the 3d inst. bees came flying out thickly, on account of the fine weather. I examined some of the hives and found them in good condition, with plenty of honey. The surplus honey, made during the past season, was about 300 lbs." C. OLM.

Byron, N. Y., Feb. 9, 1878.

"I see, by the February number of the JOURNAL, that to 'accommodate all,' you conclude to call the Section Box, the 'Phelps - Wheeler - Betsinger - Barker and Dicer Sectional Box.' I agree with you that 'for short' it should be called the 'Prize Honey Box.' By refering to my article, (Sundry Items), page 84, in the JOURNAL of Oct., 1873, you will find the following paragraph: 'Last season, I had a hive arranged with section boxes, for trial.' This refers to the season of 1872.—During the fall of 1871, I applied for a patent on a bee hive, (granted Feb. 20, 1872), and sent with model of same, section boxes, arranged on both sides of the brood chamber. This would bring me in ahead of some of the names mentioned above, on the sectional box business. I use these sectional boxes, a case on each side of the brood chamber, holding 1 doz. sections; also, one directly over same, with 15. Size, 5x6. I glass up, after taking off. Our bees (82 colonies) are wintering well on summer stands." J. E. MOORE, *Sup't.*

[We cheerfully add friend Moore's name to the list. It grows astonishingly.—ED.]

Woodville, Miss., Feb. 6, 1878.

"I have succeeded in cleaning up the ground about my hives. Almost all my colonies are heavy with honey. As soon as the bees commence to fly I shall feed them some dark honey I have on hand. On the 2d inst. the spring huckleberry commenced to bloom, and the elm and maple look as if they would bloom in a few days."

ANNA SAUNDERS.

Ft. Atkinson, Wis., Feb. 11, 1878.

"I put 57 colonies into winter quarters, the last of November, and with one exception they are doing well. I put 40 of Dr. S. J. Sawyer's colonies into my house, and there is 28 or 29 of them dead already, and it is doubtfuf about the rest. I think the honey was taken from them so late that they stopped breeding too early, and so died of old age. They were kept on shares last summer by G. W. Merryatt, formerly of Milton, Wis. I winter in a house, made anti-freezing with tan bark walls, sides and top." L. M. ROBERTS.

[Reference was made to G. W. Merryatt, on page 60 of our last issue. It appears that he acted quite dishonorably with Dr. Sawyer's bees.—ED.]

Lamont, Mich., Feb. 7, 1878.

"I have put 20 colonies out for a fly. It has been 60° fahr. for several days. I have lost 7, probably through being too warm and uneasy. The colonies are very strong."

M. W. GOODNO.

Garden Plain, Ill., Feb. 15, 1878.

"In looking over the reports in the back numbers, this winter, I find some winter with only a very few dead bees to the hive. I have wintered in the cellar; for the last 4 years, have wintered in a bee house, but cannot winter with so few dead bees. I have, this winter, swept out at least a bushel of dead bees from 110 swarms; all that was strong, last fall, are in nearly every space between the combs, but it may be they did not count what was on the floor. I have a number of hives with, probably, not half a handful of dead bees in the hive; but they have been carried out and dropped on the floor, and some of the old or diseased bees flew out and died. So far as I can see, at present, my bees are wintering splendidly, except 2 swarms, and from some cause they begin to show signs of dysentery. It has been hard to keep the temperature low enough this winter, and I have had to leave the door open at night a great deal of the time, and, if the weather continues mild, will have to put a part of them out soon; even if I have to carry them in again." R. R. MURPHY.

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Contents of this Number.

EDITOR'S TABLE:
Edltorial Items....101 to 107
Foul Broody Combs....102
Production of Wax and Comb....103
Harmless adulteration....104
Something new in Comb Foundation....104
Hand Circular Rip Saw....105
Honey as Food and Medicine....105
Table Syrups....126

MARKETING HONEY:
The Paris Exhibition....106
Honey Carrier....106
Foreign Honey....106
Freight on Honey....106
Sundry Questions Answered....107
Marketing Extracted Honey....107

FOREIGN NOTES:
Character of Baron Von Berlepsch....108
Discussion upon Hives in Germany....108

SOUTHERN NOTES:
Sundry Letters....109, 110
Small vs. Large Hives....110
Dividing Stocks....110

CONVENTIONS:
San Diego Convention....111
North-Eastern Convention....113
Tabular Statement of Operations....115
North-Western Illinois Convention....114
Italians vs. Native Bees....116
Preparing Bees for Winter....116
Comb Foundation....116
Natural and Artificial Swarming....116
Fertile Workers....116
Robbing and its Cure....116
Marketing Honey....116
The Michigan Convention....117
Marketing Honey....117

CORRESPONDENCE:
Fertilization in Confinement....118
Introducing Virgin Queens....119
Sending Queens by Mail....119
Doolittle's Report....120
The Honey-Producer's Future....120
How to head-off the Robbers....121
Some Apologies....122
Chips from Sweet Home....123
Ventilation of Bee Houses....123
Dadant against himself....124
Division Boards....125
Extracted and adulterated Honey....125
The Norway Maple....126
Creating a Honey Market....129
Comb Foundation....130
Transferring Bees....130
Humbugs and Swindles....130
All about the Teasel....131
How to become Successful....131

OUR LETTER BOX:
Sundry Letters....132 to 134

BUSINESS DEPARTMENT:
Terms of Subscription and Advertising....135
Our Illustrated Catalogue....135
Honey Markets....136
Western Illinois Convention....136
Central Kentucky Convention....136
Michigan Convention....136

Editor's Table.

☞ We have sent the Petitions to Congress concerning the sending of Queens by mail, and had several letters from Congressmen, stating that they will do all they can to have it incorporated in the new Law about to be presented to Congress.

☞ Under a false impression, friend King said some unkind things concerning us in the *Magazine* for March. As he corrects the statements and apologizes therefor in this month's *Magazine*, we will simply say—"Tis well."

☞ Friend Hedden remarks in his article on marketing honey, in this issue, that "what we most need is uniformity and attractiveness in our packages." Never was a fact more concisely stated. These words, "attractiveness" and "uniformity," are the keys to the situation.

☞ C. O. Perrine, we learn, has completed his arrangements for a floating apiary on the Mississippi River—and with his skill and shrewdness, we have no doubt he will make it win—unless a drought or something of that sort takes place. He intends to ship honey direct to Europe, and get an early start.

☞ Our friends have deluged us with articles and letters during the past month—but hundreds of them are destined to wait for want of room. Let no one think that theirs is put over because we *prefer* others. This is not so; often we found the Department full before one-quarter of those prepared for it were "set up"—and thus, often the *best* remained. Be patient with us, friends, and you may *all* speak to one another through the JOURNAL.

STRANGE!—On March 27 we received a postal card, written March 14, reading thus:

FRIEND NEWMAN:—"I sent you, Feb. 1st, by registered letter, my subscription for the AMERICAN BEE JOURNAL, for 1878, and for *Arthur's Home Magazine*. Have you received it?"

As this contained neither name, post-office, county, nor state—and as the post-mark is only a blot, it is impossible to tell—but we think we did not receive it, or the writer would have our receipt. If he will give us his name and post-office address, it shall have immediate attention.

Cedar Falls, Iowa, March 3, 1878.

MR. EDITOR:—"I would like to enquire how those who advise keeping bees in their winter quarters until late in the spring, when forage is plenty, manage to keep their bees quiet and in their hives? Our bees, here in Iowa, are very much inclined to get up, rub their eyes, and stir themselves when the first warm days come." E. E. STARK.

Just so; "They all do it," and everywhere the same. The only remedy is to keep them cool. A little ice, near by, will cool off the atmosphere quickly.

MR. EDITOR:—"I would like to enquire: 1.—In case one colony of bees is affected with foul-brood, are not the other colonies of the apiary liable to take the disease? 2.—Can hives, that have been effected with foul-brood, be used again with safety; and, if so, what is the process of purifying them?" ENQUIRER.

1.—They are. 2.—We should not like to use such hives; fire will purify them the best.

Noblesville, Ind., March 7, 1878.

"I bought 4 colonies last fall; they wintered well in the cellar; a few have died; the hives inside are very dirty, *i. e.*, have something that looks like crumbled comb. Why did they die? The hives that I received from you were very nice."
L. M. WAINWRIGHT.

They were probably queenless, and had no brood to raise a queen from. She might have been killed while moving them. The 'dirt" you speak of seems to indicate that the combs were broken down, and the bees had been engaged in repairing them—hence the yellow dirt.

"When should Melilot clover be sowed? Please say in next JOURNAL." W. Z. M.

Sow in April or May, with any kind of grain, on any kind of soil. The earlier the better. It does not bloom until the second season, generally from July 1 to 10, but it remains in bloom from 60 to 90 days. It is an excellent honey plant.

We are in receipt of Nellis' Catalogue of Seeds, Plants, Bulbs, &c., for 1878, together with some samples of choice Seeds. He sends a sample of very desirable flower seeds with each catalogue, free to any who write for it. His address is A. C. Nellis, Canajoharie, Y. Y.

☞ We have received hives from G. W. Zimmerman, J. Oatman & Co., and Sperry & Chandler for our Museum, and intended to have given each a notice this month, but cannot for want of space till our next issue. Also a uni-comb observatory hive, from Sperry & Chandler, and several other things, which much interest our visitors.—As we have several other things now on the road, in our next we will make a "chapter" of it, and notice them all.

☞ Friends Dadant have sent us their Circular and Price List for 1878. They intend to import Cyprian, Corinthian and Java bees through Ginseppe Fiorini, in Italy, and will inform our readers in due time about their success with them.

☞ The Catalogue of Krætzer Bros. & Stauber's Concord Bee-Hive is on our desk. It contains much information that will be useful to the uninformed, and a complete Price List of the Concord Hive.

☞ Bees have wintered splendidly all over the country, and everything bids fair for a profitable honey season. The season is fully a month in advance this year.

☞ Correspondents should be careful to sign their name, and write their Post Office and State plainly. Many neglect this and hence are left to wonder why they get no answers to their letters or postal cards.

H. Scovell sent us a package, said to contain plants—but when it was received, the wrapper *only* was left. It was pasted, with the ends open. Such should be wrapped and the ends closed; and tied up with string, when letter postage is not paid.

☞ On page 72 it was stated that the walls of friend Dunham's bee-house were filled with *bran*—it should have read brase; coal-brase is a fine kind of charcoal. On page 92 the word "friend" was omitted in the first paragraph of P. H. Elwood's address, after "your country." In his hurry of writing it, the word was omitted. On page 76, 15th line from top, for the word owners, read *ounces;* a typographical error.

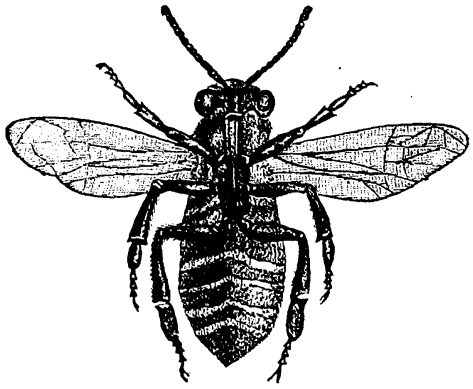
New Lisbon, Wis., Feb. 18, 1878,

"The bee-keepers of the north-western part of this state met at New Lisbon, Feb. 16, and organized the North-western Wisconsin Bee-Keepers' Association, and elected the following officers: President, J. R. Winkler; vice president, J. Boylan; sec'y, M. S. Clark; treasurer, J. Morrill, All reported their bees coming out of the winter quarters in good condition." M. S. C.

Production of Wax and Comb.

This subject is an intensely interesting study. Before the time of Huber, it was generally supposed that wax was made from bee-bread; but Huber fully demonstrated that bees could construct comb from honey without the aid of bee-bread. But, oxygen, being the support of animal heat, *is essential* to bees while building comb, because an extraordinary amount of heat must be generated to enable them to soften the wax and mould it into such delicate forms.

We herewith present a cut of the under surface of the Bee, showing the wax formations between the segments:



Dr. Donhoff states that in new comb the thickness of the sides of the cells is but the 180th part of an inch! Such delicate work is hardly conceivable; and yet, bees often make it in the dark, on cool, cloudy days or in the night—appearing never to rest.

Prof. Duncan, (professor of Geology), in King's College, London, in his work on the "Transformation of Insects," remarks as follows on this interesting subject:

"The production of wax is one of the most remarkable physiological phenomena of the organization of these *Hymenoptera*. It was generally thought, formerly, that the bees disgorged their wax from the mouth, and Reaumur certainly held this opinion; but John Hunter discovered the manner in which the wax was formed; and it is now evident that the bees carry within themselves this important building material.—The segments of the abdomen of bees overlap from before backwards, but when the margin of one is lifted up, two broad and smooth surfaces will be noticed on the uncovered surface of the next wing; these surfaces maintain during one part of the year two thin, white, and almost transparent laminæ, which are really composed of wax. The wax is really secreted by some small glands which are within the abdomen, and it transudes through the soft and smooth integument between the rings or segments. It would appear that the sugary matters which are sucked and digested by the bees are to a great extent transformed into wax, which is to all intents and purposes a sort of fat."

A writer in *Scribner's Monthly* thus describes the manner of comb building in a new swarm:

"When a swarm of bees is about to leave its old home and seek another, each bee fills itself with honey. After entering their new home, the gorged bees suspend themselves in festoons, hanging from the top of the hive. They hang motionless for about 24 hours. During this time the honey has been digested and converted into a peculiar animal oil, which collects itself in scales or laminæ beneath the abdominal rings. This is the wax. One of the workers, called the founder, then draws from its own body, by means of its clawed foot, a scale of wax. This it breaks down and crumbles, and works with its mouth and mandibles till it becomes pliable, and it then issues from the mouth in the form of a long narrow ribbon, made white and soft by an admixture of saliva from the tongue.—Meanwhile the other bees are making ready their material in the same way. On the ceiling of the hive an inverted, solid arch of wax is built, and from this the first foundation cells are excavated, all the subsequent ones being built up and around these, which are usually 3 in number. The size and shape of the cell is determined by its future use; but all comb is formed of 2 sheets of cells placed back to back, the partition walls of the 2 sheets always alternating with one another. If the comb is intended for brood, 25 cells of worker-brood, and 16 of drone, go to the square inch."

Neighbour, in his work on "The Apiary," says:

"Wax is the animal fat of the bees, and to produce it requires a considerable consumption of honey to supply the drain upon the system. To be capable of passing through the pores of the abdomen, the wax must, no doubt, be a liquid, oily matter, which, on making its appearance outside the abdominal rings, thickens, and exudes from under the 4 medial ones, in flakes like fish-scales, one on each side; so that there are 8 of these secreting cavities, which are peculiar to the worker, not being found either in the queen or drone.

"The rapidity with which comb-building progresses would lead to the supposition that there is a division of labour among bees, just as laborers convey building material to the artisans on the scaffold above. This work of comb-building is carried forward in warm weather, for a cold temperature interferes with the secretion of wax. Von Berlepsch declares that he has known cases in which a colony has built 300 square inches of comb in a single night!"

The Rev. L. L. Langstroth remarks as follows:

"It is an interesting fact, which seems hitherto to have escaped notice, that honey-gathering and comb-building go on simulta-

neously; so that when one stops, the other ceases also. As soon as the honey-harvest begins to fail, so that consumption is in advance of production, the bees cease to build new comb, even although large portions of their hive are unfilled. When honey no longer abounds in the fields, it is wisely ordered that they should not consume, in comb-building, the treasures which may be needed for winter use. What safer rule could have been given them ?"

With all our ingenuity and skill we have been entirely unable to equal the bees as builders. Only fancy what delicate work it takes to produce comb, the 180th part of an inch thick !! True, we take the wax they produce, melt it up, spread it into sheets, and then configurate it, showing the base or foundation of the cells—but there our inventive genius, for the present at least, "takes a rest." In comparison with their workmanship, ours is as a thick sheet of wrapping paper to a sheet of tissue paper !!

Friend Carlin, of Louisiana, last week, showed us a small specimen of drone-comb foundation, that was the thinnest we ever saw. It was produced by the new machine made by Novice for J. H. Nellis. So there is hope yet for us to come somewhat nearer in workmanship to the bees. That was vastly different to that used by Novice, last year, in his small sections, which we, as well as friend King, described as having "a regular fish-bone" in it.

A friend lately suggested that Novice answered us by stating that the Sections "contained only a narrow strip under the top bar," and that we had never noticed the remark. True; but it was a small matter, and we did not think it necessary. But now we will remark that these sections measure 3⅞ inches from top to bottom; a measurement just made, shows that the foundation, as put in them by Novice, is 1½ inches deep—that is but little less than one-half the way down to the bottom ! Whether wide or narrow, that is the *exact* measurement—but perhaps he uses it narrower now. Our remarks were based upon it, as he then used it. As to thinning it, Novice admits on the same page (317, Dec. No.) that his pastor had found some that had not been thinned by the bees. It was therefore unnecessary for us to re-assert what he admitted.

The use of artificial comb foundation for surplus honey was denounced at the North-Eastern Convention, by Capt. Hetherington and G. M. Doolittle, for fear it would injure the sale of comb honey. This is a note of warning in just the right time. To *endanger* the market for comb honey would be very unwise—to really *injure* it, would be a crime. Hence the importance of this matter. If used at all, for surplus it must be exceedingly thin and perfectly transparent.

☞ Chas. Hastings, of Carlisle, Iowa, says he has a new plan for holding foundation. He says. "I call it the convex wedge slot; thus V 1-12 inch at surface, and ⅛ inch deep. This form holds it so much better than a saw kerf. A little resin put into the dipping wax will be beneficial. No patent."

Harmless Adulteration.

The *London Times* makes the following remarks on the above subject:

"People will run after cheapness—they strive to get more than money's worth for their money, and the result is easy to fore-see. So long as there is a demand, there will be supply; and the excessive demand for cheap honey is now painfully felt in many directions. Many establishments are run on the plan of directly meeting this craving. They do it honestly and successfully, for the cheapening of goods is the development of manufactures and trade. Since the public pre-emptorily insist on a rate of prices incompatible with a fair profit and even the solvency of the dealer, the latter gives the public, he persuades himself, its money's worth with some harmless adulteration, sufficient to make the purchaser believe he is getting his goods cheap."

This is rather an ingenious way of putting it; particularly the *Times'* recognition of "harmless adulteration!" We fear our cotemporary hardly understands the question yet.

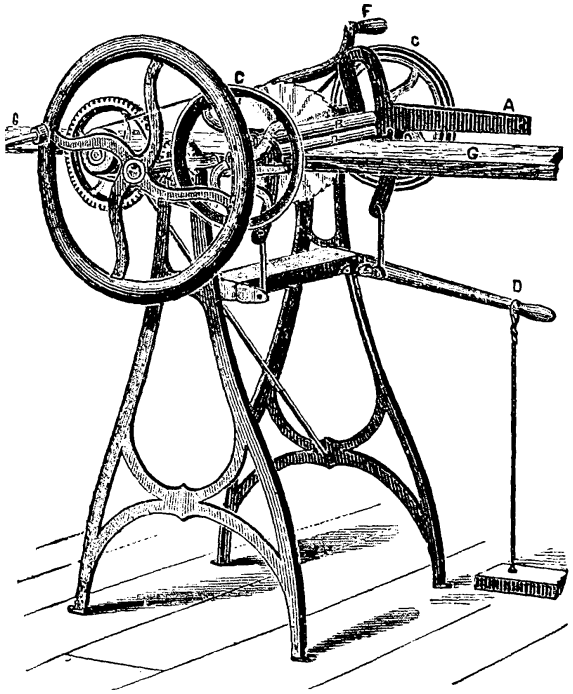
SOMETHING NEW.—We have received from M. Metcalf, Battle Creek Mich., a sample of his new comb-foundation for the brood chamber, made with standard linen, coated with wax for strengthing the comb. He has spent much time in experimenting with it, after having thoroughly tested wire, strips of metal, &c., &c. He has applied for a patent on his invention, and intends to secure to himself the benefits accuring from it. He has also been experimenting with linen, without a coating of wax, in the breeding appartment, and if he finds it a success, he will offer his invention to the public in due time. So look out for many vast improvments. Inventive genius is at work and wonders will never cease. Friend Metcalf is a practical and experienced Apiarist, and whenever he brings out anything, it is worthy a fair trial.

☞ "Bee-Keeping of to-day," by W. L. Reed, is added to our list of Books for Sale. All the manipulations of the Apiary are treated on, briefly, and in the absence of the larger works, it will be found valuable to beginners.

Hand Circular Rip Saw.

This machine, which is of untold value for making hives, and ripping out the stuff for honey boxes, is gotten up by W. F. & John Barnes, and is for sale at this office.—Its peculiar feature is that the saw, mandrel and balance wheel, slide together on planed ways, similar to a lathe. The saw is easily set to rip any width desired, and for those making their own hives, honey-boxes, &c., it is indispensable. It occupies but little space, and is made of cast steel and iron—only one piece being of wood.

The price is only $50, and no one who has used one would consent to do without



it for many times that sum. We append a letter that will explain itself:

Carlisle, Pa., Feb. 4, 1878.

"Some time ago, we purchased one of Barnes' Hand Rip Saws. It has been in constant use for 6 months, and does all that it is recommended to do.—We rip door-tenons, rabbet shutters and blinds, bevel mouldings,—in fact, do everything that can be done on a machine run by steam. We carry on carpentering extensively—running from 7 to 15 hands.—This machine has been examined by thousands, and I think will be the means of introducing them into this section." S. WETZEL & CO.

The lumber is placed between two feed rollers, "B. B.," which feed it to the saw. The feed can be made slow or fast as the operator may desire, by the cone pulleys on feed rolls "C. C."

These rollers are self-adjusting to thick, thin, or uneven lumber. The saw can be instantly set to cut any width desired from a board or plank. The machine will feed to the saw, stuff from ⅛ inch to 3¾ inches in thickness, and ¼ inch to 19¾ inches wide. With it, one man can do the work of three using the old hand-saw. Unskilled operators can do the work rapidly and truly. Unlike the hand saw, the work is square and true as that done by steam or water-power saws, and as easily dressed with the plane. An operator with ordinary strength and endurance can easily rip, line measure, 600 feet of 1 inch pine per hour, or 6,000 feet in 10 hours.

By changing the feed to correspond with the thickness or hardness of the lumber, hickory, maple, ash, walnut and cherry can be sawed with ease. The speed cut (line measure) varying from 150 to 600 feet per hour. These are not rates given that a man can only follow for a few minutes, but actual days' work rates that can be followed up from day to day.

Honey as Food and Medicine.

This is the title of a new pamphlet to be issued about the middle of the present month, by the Editor of the AMERICAN BEE JOURNAL. Price 10 cents, postpaid.

We claim no credit for issuing this little pamphlet—though it is just what is needed now, to scatter information on the subject of honey—and increase its use.

At first, we were induced to promise to deliver a public Lecture, in Burlington, Iowa, on May 8th—under the auspices of the Western Illinois Bee-Keepers' Society. After agreeing to do this, we were informed that the Society had selected as the subject, "Honey; a healthful article of diet." And that very day came a letter from Wis, from friend Claussen, as published on page 129 of this JOURNAL, asking us to write on the same subject. So that no credit belongs to us in the premises. We have simply produced it, because it was demanded.

After the introduction, we have given a brief history of Honey and its use among the ancients; the nature and properties of Honey; Honey as food; Honey as medicine; and have added a lot of Receipes for Honey Cakes, Honey Beverages, &c.

Any one having good Recipes for anything nice or desirable with honey ingredients will confer a favor by sending it to us *at once*. In return therefor, we will present them with a copy of the pamphlet as soon as out. We do not wish any Recipes that have been published in the AMERICAN BEE JOURNAL—we have all of them now. For prices by the quantity, for scattering, see page 129 of this JOURNAL.

Marketing Honey.

This department will be devoted to items of interest concerning Packing, Selling and Shipping Honey and Beeswax.

☞ The honey in Prize Boxes and Crates, sent to the Paris Exhibition, by Messrs. Thurber, was selected exclusively from the product of friend P. H Elwood, of Starkville, N. Y. This is certainly a compliment to the producer, and we shall watch with interest the report of the Jury and publish its language *verbatim.*

☞ An important alteration has been made in Hoge's Carrier, substituting spiral springs for rubber balls. These carriers can now be made at home by any one, after obtaining a pattern, at a considerable reduction in cost. They are not intended to be used for car-load lots, but simply for distributing trade, in say half-a-dozen crate lots. They can be returned to the producer and used over and over, as often as necessary.

☞ Honey dealers, we presume, like all other merchants, have a varied demand to cater to, and as a consequence are obliged to sell honey in all shapes and conditions; sometimes some want honey without, as well as with, glass. We see no objection to their supplying any and all demands that may be made for honey, provided the want be for the genuine article.

☞ They say, "a wink is as good as a nod to a blind horse;" we hardly think that Capt. Hetherington did so much as wink at friend Betsinger about the working of wire into foundation combs. A wink must have been given, though, at the National Convention, and friend Betsinger must have *heard* it, for we see by last month's *Gleanings* that he has purchased a machine with copper rollers, for the express purpose of working in the wire! Well; so wags the world. Some originate—almost all imitate.

☞ Mr. Dadant asks the question in the March number of the JOURNAL: "What kind of honey was sold by an American firm, at Bremam, for the small price of 97 cents per gallon, or 8 cents per ℔?" We would say that strained honey from Cuba, San Domingo, Mexico, Lousiana and Florida, is offered freely at 87 to 90 cts. per gallon, and American dealers having foreign orders to fill, buy the honey from the 3 first countries "in bond" at 67 to 70 cts. per gallon. Lithgow Brothers, of Porta Plata, are in the habit of buying strained honey from the natives, at 30 to 35 cts. per gallon, to which must be added the duty levied by their government. Friend C. Parlange, of Pointe Coupee, La., has now some honey in New York, which he would sell for less than 8 cts. per ℔.

Freight on Honey.

Messrs. H. K. & F. B. Thurber & Co., of New York, are just now engaged in a vigorous and intelligent effort to secure a change in frieght classification of honey. They claim it is ridiculous to rate comb honey as first-class, as nearly all transportation companies do, and exact a release from the shipper, releiving companies from all loss of breakage or leakage occurring in transit.

Mr. F. B. Thurber is the president of the New York Roard of Trade and Transportation, and therefore particularly well fitted to accomplish this important work.

There has generally been a discrimination made in classification, where releases were given. Take, for instance, the article of show-cases; they rate as first-class, but if released, they rate as fourth. For our own part, we have never been able to reconcile the justice of classing syrups as fourth, and strained honey in bbls. as second, or why transportation companies, who decline all responsibility of safe delivery should charge us more than fourth-class freight for our honey.

This change in the freight tariff would save honey producers many thousands of dollars in moving their crops next year; and we trust that every one who has the common interests of the bee-keepers at heart will cooperate in this matter.

☞ A letter from a honey dealer in Leith, Scotland, dated Feb. 22, 1878, is on our desk. It states that "comb honey is subjected to such severe handling in transit, that it is received in bad order, and is unsatisfactory to customers." He also says that "people are very suspicious and prejudiced against American honey since the late adulterations." The remedy against such breakage seems to be in using a good Honey Carrier—such as that invented by Mr. Hoge. Is it not?

Sundry Questions.

San Diego, Cal., Jan. 15, 1878.

"This winter has, so far, brought an abundance of rain, and our prospects are good for crops of all kinds. Probably one-half our bees have died, out of about 25,000 colonies in this county, a year ago. So that I do not think our production the coming year will equal that of 1876, when we exported over one and a quarter million pounds.

1. What is about the average price, good comb honey has paid producers the past season, and what for extracted honey?
2. What has been the freight and charges, all told, from San Francisco to New York?
3. About what per cent. of breakage has occurred?
4. What is the freight, &c., on extracted honey, in casks, *via* Panama, from San Francisco to New York; and has any breakage or loss occurred?
5. What is the best size of package (cask) to ship in?" CHAS. J. FOX.

1. The average price of comb-honey this season ranged from 15 to 22c. for similar quality to California honey—the style of the package, to a large extent determing the price; extracted 7 to 13c.; the lighter grades, such as Clover and Basswood, bringing the highest prices.

2. Freights are for comb-honey $2.50 per 100 lbs; extracted, $2.00.

3. With comb-honey, when packed properly and well secured in cars, the loss from breakage is trifling.

4. In former years, contracts have been made to transport honey from San Francisco to New York, via Panama, at 1 to 1½c. per lb. for extracted honey.

5. In the East a wooden-bound white-wood barrel is generally used for syrups and molasses, holding 10 to 20 gallons, which when rinsed with melted paraffine wax, makes an excellent package, and perhaps the effort now being made will get extracted honey through at 4th class rates.

Honey in single boxes will sell better than any other, and if shipped in crates as used by friends Doolittle and Betsinger, 12 boxes in a crate, either boxes or crates glassed, will doubtless find ready sale. Such will do away with the glass jars, and close the door on adulteration generally.

The cry is for honey in neat, cheap, and convenient shape. Friends Hetherington & Elwood were the first to adopt progressive ideas about marketing honey, and their brand of honey is now sought for and made the standard of excellence. This season their crops averaged about 21 cents, gross weight—or nearly 36 cents, net weight.

For the American Bee Journal.

Marketing Extracted Honey.

Attention is turning to the best means of marketing comb honey, all over the country. It is but a short time ago that honey could be sold in any style of package, at very good prices—now the tendency is towards small packages. The smaller and more attractive the package, the more ready the sale.

This should give the producers of extracted honey the "cue" to the situation.—Heretofore, extracted honey has been put upon the market in glass jars and cans; in the former, while it shows to the best advantage, it soon candies, and becomes unattractive—and consumers pass it by for comb honey.

We have run our apiary thus far for extracted honey, but much of it candies on our hands every year, which it is necessary to liquify before it can be sold. It has been our aim to *try* to educate people that in that shape was the very best way to purchase it; and failing to have many adopt our views, I have concluded to go to the root of the matter, and try to educate the rising generation, so that when they come to maturity they will know the qualities of honey just as we now know the qualities of butter and cheese.

To do this, it has been my idea to put pure candied honey on the market in small, cheap packages. Now, we have near us, machinery for turning out small round boxes from white birch wood, and of various sizes, to hold from a thimble-full up to a pound. For an experiment, we have tried a size that holds 2 ounces. Coat the inside with parraffine, fill with candied honey, put on a pretty label, with a few facts about honey, and put on a ribbon for a bail, and dozens of them are readily disposed of at any country store for 5 cts. each.

They take their places beside oranges and lemons. We don't know how long they will have a run, nor how many months in the year. If the demand was sufficient, it could be kept for sale the year round, by keeping in a cool place during the hot months. And, why wouldn't ice cold, candied honey go with ice cream, or other ice cold dishes, drinks and relishes in warm weather?

These wooden boxes are pretty, and can be sold cheap. Our 2 ounce boxes cost $1.30 per gross. Labeling, packing and commission to dealer will be 2½ cts., leaving 2½ cents for your 2 ounces of honey, which equals 24 cts. per lb.

Should there be a call for it, boxes for 10 cts. up to 25 and 30 cts. could be furnished at proportionately cheap rates. Candied honey looks much more *at home* in such a box, and can be eaten out of it more readily than from glass. J. H. MARTIN.

Hartford, N. Y.

☞ We keep Prize Boxes and Crates in stock at this office, and can supply orders, without delay, lower than the lumber for a small quantity can be bought for, in the country. See prices on last page of cover.

Foreign Notes,

GLEANED BY FRANK BENTON.

Translated for the American Bee Journal.

Character of Baron Berlepsch.

WRITTEN BY RUDOFF MAYERHŒFFER, EDITOR OF "DER BIENENVATER," PRAGUE, BOHEMIA.

Baron Berlepsch, whose decease we mentioned in a previous number, was, next to Dzierzon, the greatest bee-master of Germany. Regarding Dzierzon as the discoverer, Berlepsch is the real founder of the movable-comb system. At first, skeptical—holding himself aloof from the views and discovery of Dzierzon, he was soon—after having become acquainted with their correctness—their warmest and most eloquent defender.

Berlepsch possessed a combative nature, such as we see in Luther, Ketteler, and Johannes Scherr. With him, the statement: "To be a man, is to be a battler," became really truth. He fought sharply against any one's disposition to boast, against assuming ignorance, low dealings and swindling. It was he, especially, who brought about the revolution in German bee-culture and gave it the impulse which produced such splendid results.

It is easily seen that many became hsi enemies, particularly those who felt themselves attacked. His utterance: "*Keulenschlœge austheilen,*" was misinterpreted, and employed in placing him in an odious light. His style is a pithy, strong German; Berlepsch never descended to anything of a sickly, sentimental order; he always had too much esteem for his reader to torment him with miserable rhymes or idle words.

Berlepsch's apistic and general knowledge was colossal; he was an admirable master of the ancient languages, Latin, Greek, and even Hebrew. What a pity he lacked the knowledge of modern languages! His views were thereby confined, for he was deprived of the apiarian knowledge of other cultivated people; he valued too highly that of the Germans; and so, unwittingly, he helped to increase the German bee-keepers' self esteem, for which, however, he received few thanks.

Berlepsch's efforts were directed towards bringing bee-culture back to the important influence it once occupied in our fatherland and which, for example, it now possesses in the Union; to prevent its decline, by removing the damaging and often swindling operations that were connected with it.

As a means to this end, he pointed out that bee-culture must be followed by the economist, supplied with intelligence and capital, and must receive universal attention at institutions of learning. How far this has become a reality, every one who has ears and eyes can himself answer. Yet, we will not stop and rest; if we complete this work left as it were to us, perhaps it will be possible for us.

He always looked from a material standpoint, and yet—does it sound like irony?—he never obtained pecuniary benefit from bee-culture; for him it was only a pleasant occupation, serving to increase his knowledge and enabling him to be useful to those about him. In this, Berlepsch showed himself to be a true nobleman.

Berlepsch's private life could by no means be termed a pleasant one; it was and remained a struggle. He experienced the truth of "the old and yet ever new story;" and in science he sought comfort, which, indeed he found, even though only partially.

At one time, his health appeared to be nearly indistructable; yet, in July, 1868, he was deprived of this blessing. A sudden attack of apoplexy, which in a great measure crippled him, confined him from that time on, with few interruptions, to the sick-bed. So far as practical bee-culture is concerned, he was dead; but he still lived.—Willingly and with pleasure he gave answers to questions addressed to him, and also took an active part in all questions of great interest. It was a fortunate thing for him that his amiable and talented wife proved a self-sacrificing and affectionate companion. It was only thus that he was enabled to bear his afflictions.

He appeared and spoke for the last time at the convention of German and Austrian bee-culturists, in Salzburg; in 1872, celebrating at the same time the fiftieth year of his connection with bee-culture. From that time on, he avoided more and more all publicity; his suffering increased from day to day, until finally, on the 16th of September, last year, Death, as a welcome guest, released him.

If we glance over the work of Berlepsch, we must admit that it constitutes a marked epoch—not only for the bee-culture of Germany, but also for the whole bee-keeping world. Berlepsch will ever be held in remembrance, for he has reared for himself a monument that outlasts marble and iron. As long as bees exist and man cultivates them, so long will the name of Berlepsch be heard. FRANK BENTON, *Translator.*

Discussion upon Hives in Germany.

At the last convention of German and Austrian bee-culturists, the subject of hives was discussed.

Dr. Dzierzon declared himself to be in favor of hives constructed to contain 2 colonies; the inner walls made of wood, the outer of straw; of medium height; the frames to be taken out at the front or rear side; and so arranged as to permit the increase or decrease in size of the brood apartment by means of division boards.

Herr Lehzen, Hanover, did not agree with Dr. Dzierzon, but claimed that for the north of Germany, straw was best for hives. He claimed that where the bee-keeper practiced moving his bees about, any other form than the old-fashioned straw hives would consume much time in handling, besides costing more, and not being as durable.—He stated that with the heath bee-keeper,

turning up the hives to work with them does not interfere with the labor of the bees, since this bee-keeper works with his bees from 3 to 6 o'clock in the morning, and from 7 until 9 o'clock in the evening; and the speaker advised no one to handle stocks at any other time.

Herr Rabbow, of Howendorf, referred to the cheapness of the hive as a very important element, claiming that bee-culture will be followed extensively only when hives become very cheap. He considered top-opening hives far more preferable.

Dr. Dzierzon stated that with movable-comb hives, one could operate without hinderance to the bees, and particularly recommended, as the best time to handle bees, that portion of the day when they are flying most briskly.

Herr Frey, of Nuernberg, stated that the high price of movable-comb hives is what prevents their general adoption. He then described a hive whose walls were of wood, surrounded for winter with a packing of straw, or moss.

Herr Mayerhœffer, editor of *Der Bienenvater*, reports the discussion and then makes the following remarks:

"One thing was forgotten. The form of the hive must facilitate the greatest possible production of honey; and this is the case only with hives where the room for surplus honey is given in the direction that the bees are naturally inclined to store it, *i. e.*, above the brood chamber. This is particularly the case in the production of comb honey, for warmth is necessary, and that is secured only when it ascends from the brood chamber into the surplus honey department. Opening hives at the top is always preferable to side-opening. Among all forms, the two American hives, the King hive and the Langstroth hive, appear to me to nearly meet the requirements mentioned. Both of them are storing-hives, top-opening, and with removable honey-chambers. The American bee-keepers long ago attained cheapness in the manufacture of hives; a complete Langstroth hive, with 10 frames, is furnished, ready to nail together, at about a half dollar, or 1 florin, Austrian money."

There were about 300 members present at the 22nd "*Wanderversammlung deutscher und vesterreichischer Bienenwirthe*," held in Linz. Of course they had a glorious time. Count Visconti di Saliceto, editor of *L'Apicoltore*, of Milan, had 200 Italian queen bees, and 30 swarms on exhibition.

Der Bienenvater aus Bœhmen, (Prague), for Nov. and Dec., contains the translation of a long article on "Wintering Bees," by Chas. Dadant; and the Oct. number reproduces one on the same subject, by another American bee-keeper.

In Austria there is a law requiring sugar-refiners to close the doors and windows of their manufactories and store-houses, by means of wire-clote, in order to prevent bees from entering and perishing there. Here, the refiners employ the wire-cloth to retain the bees, when the latter have entered the manufactories, and to facilitate their destruction.—*L'Apiculteur, Paris.*

Southern Notes,

GLEANED BY

W. J. ANDREWS, - COLUMBIA, TENN.

Chattanooga, Tenn., Jan. 28, 1878.

"My bees are in splendid condition. Hives are all full of stores. Nearly all have commenced brood-rearing. One colony has its second set of brood, capped. Maples are in bloom here, and it seems right curious to hear the hum of the bees, in the trees at this season, (midwinter). I am 'fussing' with my bees nearly every day. After studying over it, I am convinced that it is much the best to have the cap, or upper story supported by a strip, say 1 inch from the top, all around, outside the wire. It will keep the moth out of the cap, and that is a big item.—If the cap is supported by a strip, nailed inside the cap; unless it is all around, it will let the millers into it, and then they will fill it with eggs, to the distruction of many pieces of unprotected comb. With the present prospect, I shall be able to double my number of colonies by the time clover blooms, and get a good yield from that source. Am delighted with the prospect."

S. C. DODGE.

Cave Spring, Ga., Feb. 9, 1878.

"I want to put my honey up in such a shape that I can sell it. Very few people use honey in Georgia, but I think it is owing to the shape it is in.—It is a very common thing, about the middle of May, to see men with water buckets, with a cloth tied over them, walking our streets with honey to sell. It is taken from the old log or box hive; new comb, old comb, young bees and honey, all well mixed, and fermenting! I think this is the reason why our people do not use more honey.

J. S. DAVIS.

[That is just what has killed the sale of honey in hundreds of places—the slovenly way in which it has been offered for sale. But when put up in a tempting manner, the old demand, much increased, however, will, no doubt, be found for good honey, in marketable shape,—ED.]

Small vs. Large Hives.

There is no point in bee-culture more vital, yet no one on which there is so much diversity of opinion and practice. The use of the movable frame is supported by the opinion and practice of all progressive bee-keepers. Yet, as to the size and shape of the frame, and consequently of the hive, there is the greatest want of harmony.

The Editor of the JOURNAL, (vol. XIII, p. 123), says: "Opinions differ as to hives. Any hive that you are accustomed to and can manipulate, will do. More depends on proper care than any particular style of hive." And this opinion is shared by many.

In order to approximate the truth on this subject, we must, forgetting all names and authorities, go back to the nature and habits of the bee, and pursue the inductive method. A hollow tree is Nature's hive, and conforms to the habit which Nature has impressed, for bees always form a round cluster, in order to preserve heat and vitality; and the receptacle which surrounds them should aid, and not tend to thwart them in their efforts. The heat which is formed by the cluster should be arrested by a wall, the same distance from all parts of the cluster; otherwise, the warmth cannot be equalized, and is being constantly dissipated by the colder air in the farther parts of the receptacle.

In making artificial hives, the nearest we can conform to the exact demand is to make the hive perfectly *square* and sufficiently *small*, to closely enclose the cluster in the ordinary winter condition and average numbers. Where there is, in the harvest season, a plethora of bees and stores, we must provide upper receptacles and deplete with the extractor, &c.

It is the nature of the bee to work with more energy in a hive that somewhat confines them—for they enjoy the prospect, as well as do men, of having only a reasonable task before them, and of being well able to accomplish it. It is very certain that in such a home they are better able to protect themselves against their various enemies.

As a conclusion then, we suggest that laterally a bee-hive should be perfectly square. If it is asserted that Mr. Langstroth favored a hive *long* from front to rear, it may be replied, that Mr. Langstroth's practice varied at different times. His hive, at first, wss 14⅛ inches from front to rear; 18⅛ inches from side to side, and 9 inches deep. After Mr. Quinby called his attention to some box hives he had purchased, that were made to lay on one side, and that bees wintered in them well, Mr. Langstroth then apopted a hive 24 inches from front to rear, 12 inches from side to side, and 10 inches deep. He next adopted a hive 18⅛ inches from front to rear, 14⅛ inches from side to side and 10 inches deep. See his book, 3rd edition, p. 330 and notes.

His object seemed to have been to adopt a hive suitable for a *shallow* frame, and large enough in single story for a full colony and its winter stores.

But to contract the Langstroth hive, so as to make it square or the same length from front to rear, as from side to side, would necessitate the constant use of a second story, except for nuclei or very small stocks.

This, again, would conform to nature, for ventilation is absolutely necessary to the bee-hive, in order to carry off damp, noxious, and heated air, both in winter and summer. What better ventilation can be given than to allow the heated and corrupt air, which is lighter than pure air, to ascend and pass off from the bees and brood, through the upper store combs. In hot weather the heat ascends readily from the vital breeding part of the hive; and in cold weather, the bees, as they retreat from the entrance, get further up among the life-giving stores.

For the South, in order to be successful in bee-culture, it is necessary for us to have a two-story, tall hive. The Langstroth with the upper story in constant use is too large for an average stock.

If the above premises are correct, the best hive generally, and especially for the hot climate we have, is the two-story, laterally square hive, of moderate dimensions, say with a shortened Langstroth or the Gallup frame. OSCAR F. BEDSOE.

Grenada, Miss., March 7, 1878.

Dividing Stocks

The following is a good method for dividing bees, and one that is both practical and easily performed by the experienced:

After providing an extra hive with empty frames; or better, frames filled with comb, proceed to open the hive to be divided, and after subduing the bees with smoke or otherwise, lift out the brood combs with all adhering bees, until ⅝ of all the brood is removed, placing the same in the new hive and being careful not to remove the queen.

Fill all unoccupied space in both hives with comb frames. Locate the new hive some distance from the old. All the old bees will return to the parent hive, but enough young bees will remain to care for the brood.

A fertile queen may be given the new colony after 48 hours, or about sunset on the second day, by quietly setting her on one of the brood combs. The bees, being all young, will accept her and the work is done.

We introduced many queens to new colonies, last season, as here given, without the loss of a single queen. The new colony will not work much for a time, but is generally equal if not superior to the parent stock, in a few days. S. D. MCLEAN.

Culleoka, Tenn., March 9, 1878.

Chattanooga, Tenn., March 20th, 1878.

"I am of opinion that the reason why some comb-honey that is made on foundation starters, contains a tough center called "fish-bone," is caused by the wax having been subjected to such *high pressure* when rolled in the machine, as to render it *tough* and *horn-like*. If the rollers of the machine are adjustable, they should be slacked enough to make a good impression for the bottom of the cells, but not allowed to raise a septum between them. For starters, I should prefer *soft-rolled* foundation, but for the brood-combs, I would prefer thick *hard-rolled* foundation." S. C. DODGE.

Conventions.

San Diego Convention.

The San Diego, California, Bee-keepers' Association met in San Diego, Feb. 7, with a good attendance. President Fox in the chair, R. G. Balcom, Sec'y.

The minutes of last meeting were read and approved.

The committee appointed to apply for a reduction of tax on bee property, reported a reduction of 20 per cent.

The next thing in order was the reading of the

PRESIDENT'S ANNUAL ADDRESS.

GENTLEMEN:—The past year has been the most disastrous to the honey producing interest ever known in this section of the country. In 1876, we produced and exported in San Diego county over one and a quarter million pounds of honey, while in 1877, we did not export any, but imported considerable honey and sugar to feed our bees, in spite of which, the number of colonies has probably been reduced from 25,000 to less than 15,000.

Several causes have combined to bring about this result:

First.—The past winter, 1876-7, was one of the driest on record, and the small amount of rain that fell was all after the 20th of January, and was of little benefit to many of our honey producing plants, cutting off our early spring feed.

Second.—The spring was unusally cold, with frosts and drying winds, so that many of the flowers were blighted or did not contain any honey, injuring our late spring feed.

Third.—The phenominal hot spell of June, consisting of 5 consecutive days of such intense heat as has seldom occurred here, the thermometer ranging from 100° to 105°, and the relative humidity as low as 5 to 7 per cent. completed the mischeif, and our most reliable summer feed was ruined. After this, only a few summer and fall flowers remained, and comparatively few colonies gathered enough for their own consumption.

This unfortunate combination of events is not likely to occur again for many years; and we may feel reasonably sure, for some time to come, that our country will retain its old reputation as the best honey-producing place in the United States.

The outlook for the coming season is unusually favorable. We have had abundant rains, coming frequently in soft, light showers; the ground is in splendid condition; the grain, of which an unusually large breadth has been sown, is looking finely; grass is very good, and the honey-producing plants are in very thrifty and fine condition.

As we shall probably have a good honey season, we must look ahead and make plans and calculations as to the best way of securing and marketing our crop, for it is only very foolish persons who go on from year to year, doing the same under all changes of circumstances.

Three years ago, when many of our apiaries were first established, honey sold readily at high prices, and we did not think we could overstock the market with an article so fine as our honey was acknowledged to be.

But times have changed; there has been a great increase in production in the eastern states, and the quality has been much improved; hard times and general economy have reduced prices, till we can, with difficulty, sell our comb honey at one-half of former prices.

Fashion has also changed. Eastern apiarists now generally put comb honey on the market in small packages, protected with glass, so that they secure a more ready sale and higher prices than we can. Another great drawback against us is exhorbitant trans-continental railroad charges.

With these difficulties to contend with, we cannot place our best comb honey on the eastern markets, in competition with the local supplies, and realize enough to make producing a paying business.

To remodel all our hives and section boxes; to pay a high price here for glass and the freight on it east, and in other respects conform to the eastern fashions, would cost us more than we could afford, especially during the coming season.

As an evidence of the disadvantage we labor under, in not conforming to the new style of putting up comb in small packages, I quote from the report of the Michigan Convention, in the AMERICAN BEE JOURNAL for January, 1878:

> Mr. Fahenstock, of Toledo, said: "I sold beautiful honey in wood sections for 15c., in glass boxes it sold readily at 20c. per pound.
>
> Mr. T. G. Newman, of Chicago, said: "The larger boxes of yore with many combs are rapidly going out of demand, and now it is difficult to dispose of those having more than 2 or 3 combs at any price.—The objection to the Harbison sections are:
>
> 1. Though readily divided by grocerymen, it puzzles them to devise means to pack such combs without side protection with other goods, and deliver to their customers without seriously damaging them.
>
> 2. For the retail stores, not being protected from dust and dirt, honey in these frames soon becomes unattractive to customers.
>
> "Dr. Whiting, of Saginaw, said he had put up his honey in cases, but sold for 17c.; when he saw honey no better than his, put up in a different case, sold for 25c., he couldn't stand it."

And a private letter to Mr. E. W. Morse, our vice president, from Mr. Rufus Morgan, of North Carolina, says of comb honey:

> "Comb honey gets to the retail trade so badly broken up that but few care to deal in it, and it costs so much expense in handling, one break down will disgust a dealer forever."

In the report I submitted to the last annual meeting of this Association, I took strong ground in favor of our apiarists going into the production of extracted or strained honey, instead of comb, and I am still more convinced of the advantage of this change. My reasons then against comb honey were:

1. The greater freight charges, because we were compelled to send by rail instead of water, and pay high freight on a large percentage of dead weight.
2. The greater cost of putting up.
3. The difficulty of shipping, except in car-loads, and the large amount of breakage.
4. The great difficulty of distributing in

small lots to retail dealers, and from them to consumers.

I have prepared some figures, showing the relative cost of shipment from San Diego to New York, by rail, from San Francisco, of comb honey in cases weighing 75 lbs. gross, or 56 lbs. net; and extracted or strained honey in casks, weighing 300 lbs. gross, or 280 lbs. net, by water round Cape Horn.

At these weights, 1 cask will equal 5 cases, and the calculations are as follows:

One cask costs here	$ 2 00
Freight from San Diego to New York, by water, 300 lbs. @ 1½ cts	4 50
Total cost, packing and freight,	$ 6 50
Cost per pound of net honey, 2 32-100 cents.	
Five cases, with nails and paper, 26 cts. each	$ 1 30
Twenty section boxes with nails, at 11c. each	2 20
Freight on 350 lbs., gross weight, at 3c	10 50
Total cost of packages and freight,	$14 00

Cost per pound of net honey, 5 cts. Difference in cost and freight per pound, 2 68-100 cts. Besides this, is the labor of making section boxes and packing cases, packing the honey, and the freight on 50 lbs., extra dead weight, from San Diego to and from the apiary.

The prices of honey, quoted in the AMERICAN BEE JOURNAL, for January, 1878, in New York, Cincinnati and Chicago, averaged 15c. for comb and 10c. for extracted.—We cannot expect to realize here, next summer, more than 8c. for comb and 5c. for extracted; the difference in cost of preparing the two kinds will be a large part of the difference in these prices.

This whole argument, so far, is based on bees making as many pounds of comb as of extracted honey, but the experience of all who have used the extractor proves that the yield is very largely increased by it. If it is only increased 50 per cent. it would, no doubt, pay better than producing comb honey.

But there is another side to the question that has not been much discussed: The advantage of making strained honey and wax for sale.

On this subject I have the opinion of Mr. Rufus Morgan, in the letter quoted from above. He says:

> "Now, in your section (and I am open to evidence to the contrary) the opinion I have always held is, that the true profit of the apiary is from *wax*, the honey to pay expenses.
>
> "I could manage four times as many hives run for wax as for comb honey, and seven or eight times as many as run with the extractor."

"Now let us see how we can make out the case. Suppose the busy season for the production of surplus honey to last fifty days. My observation in this country is that with Harbison hives, fitted with main frames in the top, instead of section boxes. Two, good, experienced men can extract, by hard work, about 2 casks, of 280 lbs. net, each, per day. This would be, say, the yield of 4 good average hives, allowing them to produce 50 per cent. more than they would of comb honey. In the season of 50 days, by steady work, the 2 men could attend to 200 hives, or an average of 100 hives to each man. Now, to carry out Mr. Morgan's estimate, the 2 men could take out comb honey from 400 hives, and this is our experience also. From how many they could simply cut out the honey, put it into a strainer, barrel the honey and lay aside the wax to be tried out in a more leisure season, I cannot say; but do not think his estimate of 800 hives an extravagant one, as it would only require 16 hives per day to each man. Now, comb honey will yield from 8 to 10 per cent. of wax, which is worth 25 cents per lb. here, or if bleached, a very simple process, nearly double that price. The bleaching consists in simply exposing the yellow wax to the sun in a long tin trough, slightly inclined so that it will melt and run down slowly, and it is worth, I understand, 48 cents per pound in New York.

In the present condition of the honey business, the low prices we can realize here, and the high price of labor, we must run our apiaries as cheaply as possible. If a man has only 100 hives, he can realize more honey, and make more money by extracting than by straining, or, in my opinion, than he can make by producing comb honey. If, however, he has 400 hives, I believe he can make more money by simply straining and selling the honey and wax than in any other way, because he can do all the work himself, without hiring any help.

It is well known that the cheaper an article is sold, the greater the demand. In a letter from a firm in Liverpool, they told me that if we could put our strained honey on the market at 8 cents per lb., the demand would be unlimited. It costs about 2 cents per lb. from here to Liverpool, including all expenses. If, during the coming fall, ships should be loaded from here to Liverpool with wheat, for our grain crop promises to be large enough to justify this, we could send honey much cheaper, which would leave us a fair price. Good, strained honey is worth now, from 10 to 12 cts. per lb. in Liverpool.

From all the above facts and arguments I draw the conclusion that our future prosperity as honey producers depends on our making only as much comb honey as will supply the Pacific coast, and by economizing in labor, materials and freights, ship direct to New York and Europe a fine, pure article of strained honey, which will sell low enough to create a large demand, and at the same time afford us a good price for production. The former prejudice against *candied* honey has given way, as I foretold a year ago it would, in view of the fact that only perfectly *pure* honey will candy. Our sumac honey, which all experienced persons prefer to any other, and which forms a large proportion of our production, candies soon after being barreled, and will, I think, become the favorite in the market. I am corresponding with parties in the east and in Europe, and will give the information to the Association soon.

Since writing the above, I have received a long and very interesting letter from Thurber & Co., of New York, in regard to the style of putting up comb honey for the eastern market. We may be able, before the commencement of the coming season, to obtain such information and make such arrangements as to enable our apiarists to conform to the present demand, and in this

way get as good a price for our comb honey in New York and other markets as eastern producers, though we cannot avoid the exorbitant freights that make so heavy a discount on our profits as producers here.

C. J. Fox.

The reports of the secretary and treasurer were then read and accepted.

The corresponding secretary read letters from Mr. R. W. Waterman, of San Bernardino, to the effect that a Bee-Keepers' Association had been formed in that county, of which he had been elected secretary, and asking the co-operation of the Association to procure from the Legislature an act to prevent the spread of and extirpate the disease known as "foul brood" among bees, which now prevails to some extent in San Bernardino county, and is very contagious and destructive. Also an act to prohibit the manufacture and sale of adulterated honey, and other desirable legislation.

The meeting requested the president to correspond with Mr. Waterman and the Hon. Mr. Pauly on these subjects, and endeavor to secure the co-operation of other counties in Southern California.

A letter was also read from M. J. S. Harbison, asking the Association to assist him in procuring for the ensuing year a just valuation as a basis for taxation on bee property. E. W. Morse was appointed a committee to confer with Mr. Harbison on the subject, and lay it before the Board of Supervisors.

A letter was read by the president, from H. K. Thurber & Co., of New York, containing valuable suggestions in regard to the present mode of putting up strained honey, in the Eastern States, and the president was directed to obtain further information on the subject, with a view to recommending a change in our method of putting up comb honey.

A letter was also read from Rufus Morgan, of North Carolina, to E. W. Morse, giving some information on the subject of making strained honey and preparing wax.

The following were elected directors for the ensuing year:

E. W. Morse, R. G. Balcom, Chas. J. Fox, J. McG. Frazier, A. P. Herrick, W. W. Terry, J. P. Jones, L. L. Lynch, E. C. Emery.

The newly elected directors organized by electing the former officers: Chas. J. Fox, president; E. W. Morse, vice-president; R. G. Balcom, secretary and treasurer, and appointed these officers an executive committee to manage the business of the Association, and then adjourned.

North-Eastern Convention.

(*Concluded.*)

THURSDAY, FEB. 7, 1878.

L. C. Root read a paper on "Parasites of the Honey Bee." He thinks those parasites have been the cause of a great deal of the mortality in winter, and yet, they have destroyed to a great extent, the malady known as foul brood, which has been the greatest scourge.

Mr. Van Deusen suggested that those who lose bees in winter, examine them to see whether they are covered with parasites.

Mr. Curtis invited the convention to meet in Utica, next year. Balloting resulted as follows: Syracuse, 21; Utica, 15; Albany, 4. Syracuse was declared chosen.

"*Are the Italian bees superior to the blacks?*

Mr. Doolittle says the two races are like some men. One will not work unless he can secure dollars, while another is satisfied to glean pennies. The Italians will gather in times of comparative dearth, while the blacks seem discouraged and are idle.

Mr. Van Deusen prefers the black bees to Italians, in buckwheat harvest, although hybrids are equally useful. Mr. Elwood agrees that hybrids are most useful in his locality. He prefers a race containing about three-fourths Italian blood—one-fourth black.

Mr. Root says neither race possesses as many points of superiority over the other as some claim for them. He would advise every one to have both races. He found that the Italians are active workers, but when abused they are also active fighters.—In 1876, Dr. A. H. Marks had secured 150 pounds from his only Italian stock, while his best black stocks only gave about 75 lbs. each.

Mr. Doolittle—the purer the Italian, the more industrious the bees, and the more the profits from them.

W. A. House prefers a cross of ⅞ Italian blood to ⅛ black.

Dr. Marks found that one fall an Italian stock filled a set of side and top boxes from wild flowers, while his blacks failed to secure any surplus.

Mr. Perry considers the black bees superior to Italians in every particular. He says the champions of Italians are constantly growing less in number and weaker.—He would sell any stock that seems mixed.

Dr. Marks had never secured more than 75 lbs. of comb honey from one black stock, while he had taken 225 lbs. from an Italian.

Mr. Preston wished to know if any one had secured over 100 lbs. of box honey from a black stock. Comparison will tell the story.

Mr. Lloyd had, in 1874, 22 stocks of black bees, which increased to 43, and took an average of 115 lbs. of box honey. Basswood yielded bountifully for 3 weeks.

E. D. Clark must have some Italians, but considers the blacks equally as profitable.

H. Root had always kept black bees.—He considered blacks equally as good as Italians.

In 1877 he had 56, and increased to 110, taking 4,798 lbs. of cap honey; shipped to New York. A single new swarm, cast June 15, gave 167 lbs. of box honey. Both Mr. Root and Mr. Lloyd live in Otisco Valley, than which no better locality can be found.

Mr. Perry will give $100 for 1 lb. of red clover honey, gathered in his locality, by any kind of bees. He has acres of red clover.

Mr. House says his Italians did work on red clover this last season, when no other plant was in blossom.

Dr. Marks agreed, and said that when he had only one stock of Italians, he found ten Italians to one black on the red clover. He had many black colonies then.

Mr. Snow had taken, in 1873, from a new Italian swarm, hived May 15, 124 lbs. The parent stock gave 76 lbs. of box honey.—In 1877, a swarm of Italians, hived May 12, gave 132 lbs. of box honey. Mr. Snow lives at Fayetteville.

FRIDAY, FEB. 8.

President Root in the chair.

The question of marketing honey and the time of preparing the statistical table was considered.

Mr. Ellwood offered a resolution that a committee of five be appointed to revise the statistical table, to add to its completeness, and change the time of its publication. It is expected that this committee will bring great benefits to the members of this association.

The motion was carried.

The president was instructed to appoint such committee, which he did, as follows: P. H. Elwood, Starkville, N. H.; G. M. Doolittle, Borodino, N. Y.; E. D. Clark, Randallsville, N. Y., and J. E. Hetherington, Cherry Valley.

The secretary said that we had failed to secure the benefits that should result from our sessions, just because we had failed to prepare a programme and appoint speakers to open topics. Article 8th of the constitution provides for these conditions, and should be more fully carried out.

Mr. Nellis requested that every member of the association send to him, at any time during the year, any question of vital importance. He would file such questions, and the committee will have a fund from which to make out an interesting programme.

The following delegates were appointed to attend the coming convention of the National Society, to be held in New York city next October: Messrs. C. D. Jones, G. M. Doolittle. E. D. Clark, Geo. M. Batty and L. C. Root.

Mr. Warner, from the Committee of Arrangements, stated that the expenses of the City Hall were $6.50. This was ordered paid.

Mr. M. B. Warner was chosen a committee of arrangements for the coming year.

QUESTIONS ANSWERED.

The following questions were presented to the Committee on Questions, consisting of Messrs. E. D. Clark, of Randallsville; N. N. Betsinger, of Marcellus, and L. C. Root, of Mohawk, and answered as follows:

Question—What position should the honey occupy in the brood chamber, in the winter, in order to meet success?

Answer—One of the committee answered: Full combs in the center; the other committeemen favored the outside.

An animated discussion was provoked by this answer, in which several persons participated.

Q.—Can water be fed inside the hive, in spring, to advantage?

A.—Yes, by two of the committee, and no by the other.

Q.—Is teasel honey superior to white clover and basswood honey?

A.—Yes, by one of the committee. He considers the flavor superior to basswood and white clover honey.

Mr. Doolittle said it was not, only in looks. Teasel honey is the whitest honey known.

H. Root said that during the late war, when teasels were largely cultivated, his honey was dark, but since the decreased cultivation of teasels, his honey was whiter.

Q.—Will the queen of the second swarm get impregnated while swarming, or will she have to come out another time for that purpose?

A.—She sometimes does so, but as a rule, she comes out again for that purpose.

Q.—Do the bees, acting as nurses, alter in any respect the natures of the young queens or bees nursed?

A.—No.

Q.—Can virgin queens be successfully introduced? If so, how is it done?

A.—Yes; leave the colony queenless three or four days. Cut off all cells and put in a very young queen.

Q.—May not the trouble of lazy and unprofitable Italians come from breeding for color?

A.—Yes.

Q.—What is the best use to make of our buckwheat honey?

A.—Sell it.

Q.—Is basswood better than pine for honey boxes?

A.—No.

Q.—Can bees that are swarming in the air be controlled, so that they cannot abscond when the bee-keeper is near?

A.—Yes, by previously clipping the queen's wings, or using a fountain pump.

Q.—What is the cause of foul brood?

A.—Unknown.

Q.—What is the remedy for foul brood?

A.—By one of the committee—Twenty-one days after swarming, shake off all bees from the combs in parent stock, and destroy the combs. By two of the committee—Shake the bees into an empty hive or bag and destroy the combs at once, and 48 hours after give the bees a hive which you wish them to occupy permanently.

The association then adjourned.

J. H. NELLIS, Secy.

[The tabular statement may be found on the next page.—ED.]

North-Western Illinois Convention.

A few of the apiarists, of north-western Illinois, met at Rock City, Ill., Dec. 4, 1877, and organized the "North-Western Illinois Bee-Keepers' Association." After the adoption of a constitution, the Association adjourned, to meet at the call of the executive committee.

The Association met at Rock City, Ill., Jan. 29, 1878. President H. W. Lee in the chair; T. E. Turner, Sec'y.

After reading the minutes and constitution, 5 new names were added to the roll.—The Association entered into the discussion of topics as follows:

NORTH-EASTERN BEE-KEEPERS' ASSOCIATION.

TABULAR STATEMENT OF OPERATIONS FOR THE PAST SEASON.

NAMES.	SUCCESS IN WINTERING.									SUCCESS OF THE SEASON'S OPERATION.													
	No. of Colonies Fall 1876.	Condition in Fall.	No. of Colonies Spring 1877.	Condition in Spring.	Where Wintered and the Average Temperature	When put in—1876.	When taken out—1877.	No. of flights in winter.	Manner of wintering briefly expressed.	No. of Colonies Spring 1877.	No. of Colonies Fall 1877.	No. of Italians in Fall.	No. of Blacks in Fall.	No. of Hybrids in Fall.	Name of Hive.	Number and size of frames, outside measure.	Amount of Box Honey produced.	Am't of Extracted Honey produced.	Proportion of white honey.	Amount of wax.	Extra Italian Queens.	The principal sources from which honey was gathered.	Average value of the honey season.
H. Root	80	g	65	m	Out-doors			..	Different ways	65	110	...	110	...	Langstroth	10 fr 18x9¾	5,000	....	9-10	30	...	clo., bassw., bu.	m
G. M. Doolittle	104	m	80	m 1	Cellar & out-d, 42	Nov. 27	Mar. 17	2	Fig. 2	67	152	152	...	..	Doolittle's	9 fr 11¼x11¼	10,284	893	5-6	30	100	cl., ba., tea., bu.	g
J. L. Scofield	90	g	90	g	Cellar. 42	Nov. 27	Apl. 13	..	Quilts over frames	90	112	112	...	50	Langstroth	10 fr 9⅛x17⅝	5,430	1,050	⅛	47	69	clover, buckw.	..
H. D. Mason	72	g	65	g	Out-doors	Nov. 15	June 1.	1	Packed in boxes	60	108	37	1	70	Langstroth	10 fr 9⅜x17½	4,800	200	9-10	20	...	basswood	g
N. N. Betsinger	200	m	40	w	Out-doors			1	Packed in saw-dust	74	178	20	18	140	Betsinger Imp.	8 fr 9½x15	7,500	100	5-7	100	...	teasel & buck	g
W. A. House	280	m	137	w	160 in, 120 out	Nov. 15	Mar. 20	1		137	240	80	...	160	House's Imp	8 fr 12¼x11½	5,000	500	⅔	30	...	wh. & red clo	m
Joseph Stetsel	60	g	54	w	Cellar, 35 to 40	Dec. 2.	Apl. 3.	..	No protection	54	88	...	66	22	Old Quinby	8 fr 18½x11¼	1,250	....	2-5	6	...	clover & buck	m
W. V. Bosworth, Jr	21	..	14	g	Out-doors			..	Packed with straw	14	32	mi	xe	d	Langstr'th Imp.	8 & 9 fr 16½x10	300	10	....	6	...	ba., cl., lo., w. fl.	g
Leroy Newton	10	g	10	g	Cellar	Dec. 30	Apl. 1.	..	Quilts over frames	10	26	...	26	...	Langstroth	10 fr 9⅛x18	550	....	all	...	...	clo. & basswood	g
A. H. Marks	72	m	47	w	House, 45			1	Packed in chaff	47	76	63	1	12	Quinby	7 & 8 fr 17x11½	3,700	400	⅔	...	20	clo., ba., bu., G.	m
Wm. R. Edwards	24	g	15	g	Out-doors			..	Packed in straw	15	28	...	28	...	Langstroth	10 fr 9x17¾	1,064	....	⅛	...	...	cl., ba., tea., bu.	g
W. E. Clark & Son	57	m	52	m	House, 38	Nov. 25	Apl. 2.	1	Fig. 3	52	108	1	107	...	Wheeler's Imp.	12 fr 10¾x11¼	1,000	1,500	¾	40	...	cl., ba., buckw	g
E. F. Wright	62	g	46	m	Cellar and house.	Nov. 15	Apl. 6.	3	Top tight, end vent'n	46	78	15	56	7	8x12, 11 deep	8 fr 10½x17	3,000	150	⅔	25	8	cl., ba., ivy, G	g
T. A. Salisbury	4	..	14	g	Out-doors			..	In chaff boxes	14	24	...	1	23	Langstroth	10 fr 9⅛x17⅝	1,314	....	a	4	...	sw. & wh. clo	g
Daniel Marsh	47	g	34	g	Cellar & out-d'rs.	1st c'ld	Apl. 25	2	Carpet on top—cellar	34	76	12	...	64	L. & Marsh	9 & 10 fr 12x13	2,500	....	¾	...	...	clo. & bassw	m
Edwin A. Knapp	10	g	8	g	Cellar, 45 to 55	Dec. 21	Mar. 14	1	Carpet on frames	8	14	...	10	4	Langst oth	10 fr 9x18	860	....	½	4	...	clo., bu., ba., ra.	m
Danl. Z. Betsinger	35	m	26	g	Out-doors			..	Passages in combs	26	46	...	46	...	Langst oth	7 fr 10¼x16⅜	900	120	⅞	8	...	basswood	m
Ira Wilson	45	g	22	w	Out-doors			..	Packed in straw	32	53	...	23	30	Quinby Impr'd.	6 fr 19½x11½	1,000	50	⅛	...	...	clo., ba., bu	pr
Geo. W. Battey	121	g	100	g	Out-doors			3	Packed in straw	100	140	20	100	20	L. & box	8 fr 11x14	3,000	500	¾	...	...	clo., ba., bu	g
S. T. Hoyt	75	g	42	g	Out-doors			4		42	76	33	...	38	Graves & box	8 frames	1,000	120	⅔	30	...	fruit, clo., ba.	g
J. E. Lloyd	64	..	44	w	Out-doors			..		44	73	...	70	3	Farmer's Fr'nd	9 & 13 fr 10½x11	3,394	....	⅞	75	...	clo., ba., bu., ra.	m
C. D. Jones	50	..	50	g	Cellar, 44	Nov. 22		2	Quilts over frames	50	50	mi	xe	d	Langstroth	9 frames, [15½	2,700	800	¾	30	...	clo. & bassw	m
M. B. Warner	15	m	14	g	House & out-d'rs			..		14	22	3	3	16	Universal & bx.	8 14¼x11¼,9¼x	620	773	9-10	9	...	wh. & sw. clo	g
J. H. Bucklin	179	m	170	m	Cellar, 38	Nov. 20	Apl. 2.	..		170	205	mi	xe	d	Mostly box	8 fr 12x16	2,200	....	all	...	...	clo. & bassw	m

EXPLANATIONS.—m, medium; g, good; w, weak; pr, poor; ba, basswood; cl, white clover; bu, buckwheat; tea, teasel; lo, locust; G, golden rods; ra, raspberry.

Fig. 1.—50 fair; 30 very weak. Fig. 2.—50 out-doors, packed with straw; those in cellar, quilt over frames; 67 honey stocks in spring 1877; those in cellar had no flights. Fig. 3.—6 inch cut straw in cap, end frames removed and filled with cut straw.

L. C. ROOT, *President.*

J. H. NELLIS, *Secretary.*

ITALIANS VS. NATIVE BEES.

Mr. Williams' success with the black bees, working in boxes, was better than with the Italians. The Italians appeared to dwindle worse than the black bees in the spring; but the Italians were easier handled, and were not troubled so much with moths as the blacks. On the whole, he preferred the Italians.

H. W. Lee preferred the Italians. Their queens are more prolific, easily overcoming spring dwindling.

Mr. Willikin prefers Italians, because they work on red clover when the blacks would not.

T. E. Turner gave the preference to the Italians over the blacks. Had seen them in great abundance on the red clover, but had never seen a black bee on it. Italians seemed sometimes to prefer the red clover to the white. Italians would stay on the combs, when handling, while the blacks would run to the sides of the hive. It took much longer to find a black queen than it did to find an Italian. They are proof against moths.

Mr. Kiester thought Italians were much better than the native bees.

PREPARING BEES FOR WINTER.

Mr. Lee had fed sugar syrup in September, when bees failed to store enough honey for winter, and his bees wintered well on it. Fed late in the evening, by pouring the syrup right on the cluster in the hive. He preferred summer honey, rather than fall honey; bees wintered on it were less liable to disease. He would feed honey after this and not sugar, for those who did not understand the matter thought he fed sugar syrup to be extracted and sold for honey. He takes off the honey board and puts on old sacks or cloth, to keep bees warm and to absorb moisture. Had always wintered in the cellar.

Mr. Williams had kept bees in box hives until recently, and had wintered out of doors successfully. He now wintered his bees in the cellar, giving ventilation through wire cloth.

T. E. Turner wintered bees in the cellar, and this winter put on a piece of muslin in place of a honey board. He preferred ripe summer honey to fall honey or sugar syrup, for winter feeding.

COMB FOUNDATION.

J. Stewart considered comb foundation a great success. It enabled the bee-keeper to get all straight worker-combs.

R. M. Millikin had used it for starters, during two seasons, and liked it very much.

J. Fehr tried it, but was not very successful; expects to try it again next season.

T. E. Turner considered it a success, if used only for comb guides; and, if used more extensively, it would give all worker-comb, which could not be got where bees were allowed to build all the comb themselves.

NATURAL AND ARTIFICIAL SWARMING.

Mr. Lee liked both natural and artificial swarming, under some circumstances. He liked the artificial method when he had plenty of empty combs to fill the hives, and a fertile queen to introduce into the queenless part. But, if he had neither empty combs nor fertile queens, he liked natural swarming the best. Such swarms usually build straight combs, and were not so apt to cast second swarms. He thought cells from a hive that had cast a natural swarm produced more prolific queens than those produced by artificial swarming.

Mr. Keister also thought forced queens were not so prolific as those produced by natural swarming.

Mr. Williams liked artificial swarming, but lets his bees do their own swarming, mostly.

T. E. Turner never practiced natural swarming, because he had no bees to spare to go off to the woods. He did not like the artificial method of dividing, unless he had a fertile queen for each part; still, he preferred it to natural swarming. He had tried nucleus swarming and thought that the best method of increasing stocks.

FERTILE WORKERS.

Mr. Lee had got rid of a fertile worker by caging a fertile queen in the hive 10 or 12 days before releasing her. He thought the surest plan to get rid of fertile workers was to unite the bees with a hive near it that had a fertile queen, and then in a few days divide the united stock, if thought best.—He had not tried that plan, but could not see why it would not work satisfactorily.

Mr. Williams had a hive in which he had 4 Italian queens killed, and he introduced a black queen successfully.

T. E. Turner had but little experience with fertile workers. He had been told a good plan to get rid of one was, taking the bees 20 rods away and scattering them around on the ground, and then letting them fly back to their old stand. But he thought uniting bees with some other colony, and afterwards dividing again, would be the most economical plan.

ROBBING AND ITS CURE.

Mr. Lee keeps the entrance contracted and honey out of the way of bees, to prevent robbing. When robbing was general, all over the apiary, he had stopped it by closing and opening the entrances of all the hives alternately, for a few times in quick succession. The bees became confused and the robbing stopped. If but one hive was robbing another, he had stopped it by exchanging places of the two hives.

T. E. Turner found robbing was like many other things—more easily prevented than cured. He had been told, a good way to stop robbing was to put loose straw over the entrance of the hive that was being robbed.

MARKETING HONEY.

Mr. Williams has his honey stored in old-fashioned boxes, and puts his extracted honey in Mason jars, and sells it all at the same price.

Mr. Lee finds that some customers want honey in frames, and others want it in boxes; and to suit all customers, the producer must have it in the shape in which it

is wanted. The present market price for extracted honey will not pay to produce it.

Mr. Fehr said that sometimes one would sell honey below the market price, which would interfere with others making sales, and he thought Associations might do something to fix a uniform price.

After the consideration of these topics with a good degree of interest, and attending to some miscellaneous matters, it was

Resolved, That the Secretary be, and hereby is instructed to send an abstract of the proceedings of the Association at this meeting to the publishers of the AMERICAN BEE JOURNAL, and the *Bee-Keepers' Magazine* for publication.

The Association then adjourned to meet at Rock City, Ill., at 10 A. M., on the first Tuesday of May, 1878.

Rock Run, Ill. T. E. TURNER, *Sec'y*.

Marketing Honey.

READ BEFORE THE MICH. CONVENTION.

In this subject I feel that I have a duty I am unable to discharge. Allow me to assert that the successful display of honey is a trade all by itself, scarcely inferior to the production of it.

1. We cannot expect to succeed in this branch of our pursuit, unless we can maintain a certain degree of independence in the markets.

I hope each member here will strive to induce consumption, and thus create a demand; but, we must recollect that the object of this meeting is to learn of each other how to increase production.

We must do all we can to realize good prices for our surplus product, if we wish to maintain a reputation for our pursuit.

High prices for honey promoted apiculture from its side-issue condition to its present high standard. A small number of specialists have done more to place bee-keeping where it now stands than all the bee-owners combined.

It was not extractors, Italian bees, nor comb foundation, but enthusiasm, stimulated by war prices, that did it.

I will try to put forth my ideas of independence in the honey market. I know of producers who sold a part, or all of their crop of bright comb honey, at from 10 to 12 cts. per lb. Simply because it was stored in ugly boxes, unattractive and unfit for market. Now, this low sale not only injured the one that made it, but every honey producer.

A bee-keeper, after looking at my honey boxes, said to me: "You will sell all of your honey as fast as you can hand it out, at good prices." Said I, "If my neighbor stores his in a nail keg, he is going to sell it, if he gets but 1c. per lb., and the purchaser is going to eat it; and when he is full of this nail-keg honey he does not want mine at any price; much less at a price that will pay me for putting it up in attractive and convenient shape." Hence, both of us producers must lose, and the nail-keg man the most. What we most need is uniformity and attractiveness in our packages. I believe every honey producer should be prepared to ship, in neat, safe, and attractive shape, directly to the consumers or retail dealers. The more, because honey is a product that is consumed and produced in nearly every place in the civilized world.—Let us protect the dealer, and remember that he is an unavoidable and useful member in the commercial world, and that it is worth more to retail our honey to consumers, than he charges us for doing it.

Proper sizes and styles of boxes and cases, readily transportable, will avoid a glut in the market in one locality, and scarcity in another, which is the wholesale dealer's success, and the producer's ruin.

We see in the journals such statements as these: "I have no trouble to sell my comb honey at 25 cts., and extracted at 20 cts. per lb." Then another, "Can you tell me where I can find a market for my honey? I ask 18 cts. for comb, and 10 cts. for extracted,"

All this proves that we have no rational system of storing in attractive shape, and shipping this product of ours.

I think the day is close at hand, when the price of honey will be more uniform through this country. Our show table is well supplied with the means to bring about such a result.

In regard to sizes of packages, we shall find that our goods are subject to the same laws of trade that all others are. We must store comb honey in at least 2 sizes of boxes, and perhaps 1 size of section frames besides. Reasonably small packages will be found most saleable, but I consider the 4¼x4¼ in. sections, as used by A. I. Root, too small.—It shows too much tare. I believe that the coming price of honey will induce consumers to buy more than a thimble full at once; and, of course, we prefer to store in as large boxes as will sell well, and ship safely. Our cases for comb honey should be of bright, clean wood, not holding over 30 lbs., and as cheaply gotten up as will answer the purpose, and never make any calculation to have them returned. By freight is the safest and cheapest way to transport honey; and if you ship by express to get your cases returned, you take extra risk of smashing, and pay more for a dirty, and perhaps broken cases than the original cost; besides, you need a set of books to keep track of their whereabouts.

To sum up, does any manufacturer or dealer do business on the return-case principle, except where the contents are to be at once removed, and the cases kept from sight, and goods sent by express, because perishable (like oysters in bulk) and then return case free? If soaps and candles can afford a box, so can our valuable product.

I have seen a notice of this meeting in nearly every newspaper I read. If half the effort that we have put forth in this direction could be used to help us sell our extracted honey, candied, and inform the public that it is pure and clean, too; and that nearly all syrups and molasses are not, it would work a change for the good of both producers and consumers, while liquid honey has probably the worst of names, as regards its purity. This audience knows that there is a less per cent. of adulterated honey in the world than of any other commodity, possible to adulterate.

There is no use to deny the fact that we have done little or nothing to inform the public of the superiority of extracted honey over its competitors. We have been too busy manufacturing supplies, and bee-keepers to buy them. If we expect to increase the demand for our product, we must increase the consumption. We can do more unitedly, than alone. Nearly every leader in the convention has asked the press to help forward production; and they have often done so. Who has asked them to forward the consumption of honey? Production of honey is in advance of consumption, in this country, to day.

Supply and demand has the same influence on the success of our business as upon all others. We must strive to keep demand in advance of the growing supply, or some of the weakest among us will be forced to abandon the business. JAMES HEDDON.

Correspondence.

For the American Bee Journal.

Fertilization in Confinement.

REV. M. MAHIN, D. D.

That by careful and judicious selection, bees, as well as any other stock, can be improved, does not admit of a doubt. Very great differences are observed in the temper, and in the productiveness of swarms. This is true even of those that are very nearly related. I have raised two queens from the same mother, at the same time, and have given them, as nearly as possible, the same advantages as to bees and combs; and while one colony has been prosperous, becoming strong in numbers and rich in stores, the other has hardly lived. Now, a queen raised from the poor one might be prolific, and produce good workers; but any one would prefer to have a queen from the prosperous colony, as more likely to possess the qualities desired.

With our modern facilities for handling bees, it is easy for us to select the mothers of our queens; and it is a fortunate fact, that in bees the mother impresses her own character on her progeny much more strongly than the father does. In many cases, the progeny of a pure Italion queen, fertilized by a black drone, will be so nearly like pure Italians that only a practiced eye can detect the difference. I have now a colony of half-blood, bred from a very finely marked stock, in which I have failed to find a single bee that has not three distinct golden bands. Yet, the want of uniformity in color, some being light and others dark, convinces me that they are not pure. On the other hand, a black queen mated with an Italian drone, will produce bees with little trace of Italian blood. Notwithstanding, it is more important to have queens bred from good mothers than from good fathers, it would be a great advantage if we could select the drones as well as the queens, from which our breeding stook is to be reared. Can we do it? And if so, how?

These are questions which have not yet been satisfactorily answered. I have been, for several years past, among those who believe that the object can never be successfully accomplished. I have no faith in any plan that allows the young queen to retain her ability to fly. It is impossible to so construct the entrance to a hive that the workers can pass and repass, and that a virgin queen cannot. There is usually a little difference in the thickness of a virgin queen and a worker; but it is so little, that where the worker can pass, the queen will manage to squeeze through; and then all the labor is lost.

If the fertilization of queens can be controlled at all, I think the first thing to be done is to clip their wings, so that they cannot fly. Then the queen must be watched, and when the young queen comes out, set a wire cloth cover, (such as are used to cover dishes at the table), over her, and catch such drones as you want and put under the cover with her, leaving her in the sunshine and where the workers of her own colony can feed her through the cover. If the experiment does not succeed within 10 or 15 minutes, let her go back into the hive and try it again the next time she makes her appearance, which will probably be in 5 or 10 minutes.

I have not tried this plan, but I recommend it to those who have the time and the patience to give it a fair trial. My reason for thinking that it may succeed is that queens that cannot fly sometimes become fertile, copulation taking place, no doubt, outside, in front of the hive.

When I was a boy, my father and I were looking at a couple of swarms of bees, hived, perhaps, the day before in log gums, when we noticed one of the queens come out and fly away. We supposed, that being dissatisfied with the domicile we had furnished her, she had gone to the woods to find a hollow tree, to which she might lead her subjects. On her return, my father caught her and clipped one of her wings. Observing the other hive standing on the same bench, and next to the one just mentioned, we saw the queen come out of it, and she was cought and clipped also. And then trouble began. Neither queen was impregnated; and we had to watch them day after day, and return them to the hives, until one time when the family was away from home until after dark, one of them staid out all night and perished; and the bees went in a body into the hive of their next door neigbors, and went to work. We saw nothing more of the other clipped queen until swarming time the next summer, when she came out with a large swarm of bees. She had been fertilized, and had got back into the hive, the day we were away from home.

A few years ago, I clipped a wing of a young queen to prevent her fertilization, that the drones in her hive might be spared to fertilize some queens that were about to hatch. It was late in the fall, and most of the hives, all, in fact, that had fertile queens, had destroyed their drones. After all, my young queens had been impregnated, I opened the hive containing my clipped queen, and discovered that she had been fertilized; probably, within the previous hour.

These facts, and other similar ones that have been reported, seem to me, to point out the line in which experiments should be made, if we would succeed in breeding from the drones of our purest and best stocks.

Logansport, Ind., Feb. 13, 1878.

For the American Bee Journal.

Introducing Virgin Queens.

It appears from reports in the JOURNAL that it troubles many bee-keepers to introduce virgin queens. For the benefit of such, I will give my method of introducing, in detail, thinking it has some advantages over any method that has come under my notice. It may not be new to some, but if not, it has not yet made its appearance in the AMERICAN BEE JOURNAL, to my knowledge.

When the apiarist wishes to introduce virgin queens to hives that have swarmed, to prevent after-swarms, or for any other purpose, let him go to a hive that has piping queens, remove the frames without smoke, if possible, or use as little as may be necessary to subdue the bees, in order not to frighten the guards away from the cells, or you may defeat your object, by allowing the queens to escape without securing them in the cells—therein is where I claim the advantage of this plan over others with which I am acquainted.

With a small knife remove the cells that have queens ready to emerge, which may be known by their having the lid of the cell cut loose part way around, and would come out any time if they were not kept back by the guard of workers that are stationed around such cells for the purpose of keeping them prisoners, and supplying their wants, which they do by the queens thrusting their tongues through the opening at the side of the lid, to receive the proffered food, tendered by the faithful workers.—Use care in handling the cells, and, as fast as removed from the comb, lay them on their side, on a small board with a cleat on one end; lay the open end of the cells close against the cleat, to prevent the escape of the queens till you get all, or as many as you wish to remove; then take the board containing the cells, go to the hive you wish to re-queen, take a cell in one hand, hold the open end close to the entrance and with your knife assist the queen to remove the lid, and let her run into the hive without touching her with your fingers, and she will be well received.

I have introduced many by this plan, and found it the most uniformly successful of any method that I have tried. I have had a few cases where virgin queens were put in very early in the season, to prevent after-swarms, become fertile and fill the hive with brood so rapidly that they would swarm out with preparations the same as prime swarms; but such cases are very rare in this climate.

Last season I introduced 8 queens, the same day, to as many hives. A part had swarmed naturally, and the balance were artificially swarmed; the queens were all well received, and in due time were laying.

By the way, one of the 8 that was introduced to number 14, met with quite an adventure before she reached the hive.—The bees in said hive had been very irritable for several weeks, and would show their pugnatious disposition on approaching the hive, without any provocation whatever. I was very particular to approach this hive with care when giving them a queen. I held the cell near the entrance, and with my knife pushed open the lid. Just as the queen started out of the cell, an angry bee came out of the hive, and started after her; she ran about six inches on the alighting board and then turned to give battle, but it was as decisive as short; she had no more than turned facing her antagonist, before the worker was in her vice-like embrace; the queen curved her abdomen under the worker, stung and dropped her instantly.—She turned round and walked into the hive, as unconcerned as though nothing uncommon had happened. The abdomen of the worker contracted, she crawled to the edge of the alighting board and dropped off.—This was all done before the queen had been out of her cell one minute, and was the first time I ever saw a queen sting a worker.

For preventing after-swarms, this plan has many advantages. I introduce any time, from the day that a hive swarms till just before the young queens that were left in the hive begin to hatch, and have very little trouble, but I prefer to introduce within the first five days after they swarm.

Warren Co., Pa. JNO. F. EGGLESTON.

For the American Bee Journal.

Sending Queens by Mail.

Last season an attempt was made to get the Post Master General to reconsider the instructions from that department against sending queens by mail, but that august dignitary would scarcely condescend to even listen to the request. Now, we thought at the time that it would have been better not to agitate that question any more, but let every body continue to send queens by mail. We have always done so, unless ordered by express.

We put them up in sealed packages, and pay letter postage, and enclose a letter at the same time, so that we are simply sending a letter with a bee, or two or three in it; and if properly put up, the postage would not be more than double letter postage, at the farthest; and if several queens are sent at once, it would be less.

The advantage of this plan is, that the postmasters have no business to know what is in your letters, and you are under no obligations to tell; at least, I don't know of any law that authorizes postmasters to open letters, nor to make the writer tell what is in them.

Put up your queens in sealed packages, put on letter postage and drop them in the letter box, and then let us see where the postmaster is that would dare not to send them.

Postmasters are instructed not to allow

bees to go in the mail, but unless you tell them when you are sending, or put them in the class of mail matter that they are allowed to open, those instructions are entirely defeated. But, if you go to the office with your bees, and say to the postmaster: "Here are some bees; what is the postage?" he is bound then to tell you that they are not mailable. N. CAMERON.

Lawrence, Kansas, Jan. 15, 1878.

For the American Bee Journal.

Doolittle's Report.

My mind has often reverted to the great achievement of G. M. Doolittle, that appears on page 347, in the October number of the AMERICAN BEE JOURNAL, in securing 10,284 lbs. of box honey from 65 colonies out of 80, worked for box honey. It is truly splendid, and has led me to a closer scrutiny of the report than if it had been smaller; and it has brought to light some facts which I wish to be made as general as the report itself. I do not charge, that Mr. D. intended to deceive, as I think it has always been his custom to give the old stocks credit for the honey made by the full force of old stocks and increase, which is calculated to mislead the public, and especially novices grievously. Briefly I will state what I believe to be facts in the case.

He says the average yield per stock worked for box honey was 158 lbs. each.—Now we are left to infer that though he increased to 152 stocks, the increase gave him *no* box honey. And yet, he says in an article headed, "Increase, and preventation of increase," read before the National Bee-keepers' Association. in New York, Oct., 16, and which appears in the November AMERICAN BEE JOURNAL, page 370, "Thus it will be seen, that we make our new stock from 2 old ones, and they are *all* in the best possible condition to store box honey;" and again he says in his report. "Thirteen old stocks that were weak were broken up into nuclei, to raise queens from."

Now, we will figure a little. If, as he says, 1 new stock is made from 2 old stocks, and all equally strong, and he had 65 old ones that he worked for box honey, then he had 65 and 32, equaling 97 old and new to box. I am credibly informed that he boxed 110 stocks, the 13 wanting to make up that number (110) was probably by doubling up the nuclei that raised the queens for his increase. Thus his nuclei played an important part in his yield, by giving his new stocks fertile queens, which we know to be a great aid, and should be considered.

A boss carpenter says, "*I* built that house!" Yet, he did not. He supervised and aided; many men put their muscle to the work.

> "Anvils rang, and hammers beat
> Before the work was called complete."

And so this aid was extended in the building up of that pyramid of honey, by Mr. D's 30 nuclei. But I have digressed a little. He has boxed those 110 stocks, 28 or 30 boxes, (2lb., Betsinger Sectional Boxes), to each hive, in the Betsinger Sectional Case, which gives him 60 lbs. capacity for each hive. The result is 10,284 lbs. of box honey, or 93½ lbs. of honey to each of the 110 stocks, *gross weight*. Now, *wood* and *glass* is not honey. There were used to box this honey 5,000 boxes, weighing 2 oz. each, 625 lbs.; 10,000 lights of glass, (41 boxes), 50 lbs. to the box, 2,050 lbs.. Tare, 2,675 lbs.; leaving 7,609 lbs., or an average of 69 lbs. each, of what the world *calls* honey. 158 minus 69 equals 89 difference.—Why, this does not look so *large*, does it?—And yet, I believe it *strictly* true as to the first average, 93½ lbs.; the tare may be slightly incorrect on the last average 69 lbs. If I am wrong, Mr. D. will please correct me. I have no other object than to review his report, as I would the balance sheet of a banker's statement, ere it went to the public, if it were laid before me for inspection. And this 69 lbs. average is presuming that the other 42 stocks of increase gave no box honey.

I do not wish to belittle Mr. D's. report.—His success the past season has been good. He is an energetic enthusiast in his vocation, which, added to a good season and good appliances, has made that success possible.

May I give you Mr. Doolittle's report in my simple mathematics, and you shall judge if it be correct: I had 80 stocks in spring; 13 weak. Increased to 152 colonies, in good condition for winter. I have taken of box honey, 10,284 lbs.; of extracted, 803; total, 11,177 lbs. Forty-two of this increase I presume to be made after the box honey season, leaving 110, and 2 used with the extractor make 112 stocks. An average of 100 lbs. to the hive, gross weight, tare as above, 26.75, or 24 per cent., nearly.

This is splendid for an average, and should satisfy the ambition of the most aspiring. CHAS. D. HIBBARD.

Auburn, N. Y., Dec. 4, 1877.

For the American Bee Journal.

The Honey-Producer's Future.

WHAT SHALL IT BE?

Who can tell? I cannot. Even the youngest of us have lived long enough to see several new kinds of food preparations come into existence and general use. These several new kinds of food appeared to contain elements which the human system soon learned to *demand*. This does *not* seem to be the case with honey. *Our* product seems to be only a luxury, that a part of humanity like occasionally. Many persons cannot bear it. It is said that once honey was used very extensively. That statement is true. It is also said, that at that time honey was the principal "sweet" known to man. It is further stated, that within the last few centuries cane sugars have sprung into market and into general use, and honey has stepped to a back seat. All true. Had we no sweet but honey, the natural constitutional demand for sweet would place it, with its several acids, as a *staple commodity*.

For three years I have placed the choicest of pure machine-extracted honey upon the tables of my neighbors at 11½c. per lb.,

$1.25 per gallon—11 lbs. for a gallon. *Every one* speaks in the highest terms of said honey. I have taken pains to get the people to sample it, that they might have that honey that was best suited to their individual tastes—clover, basswood or fall flowers. I find many preferring the dark honey, but most the clover.

In 1875 I sold 125 gallons, in 1876, 40 gallons, in 1877, up to date, 15 gallons, in round numbers. All this time I have sold my bright honey below barrel prices.

Now, I credit the cause of this falling off to two sources:

1st. "Hard times," or comparative scarcity of money; and,

2d. To the fact that honey contains no elements that fastens itself to the system as a necessity. At this same time oysters have been sold at one price, and the trade in this town has rather increased. We think we *must* have them every-so-often.

We "*like* honey once in a while." An arcle of food may taste delicious to the palate without having the power to kindle an appetite that amounts to a demand. Whisky and tobacco are naturally noxious to the taste, but after given to the system a few times they *create* a demand that hard times, high prices, and revenue taxes can't counteract. It seems to me we need not look in the direction of "increased demand," as far as table use is concerned, to take the surplus crop of honey that the American flora can spare, and that these "gush over" book and supply dealers say "must be gathered."

Now comes the question, What is the value of honey for cooking, brewing, ham-curing, wine-making, and such unlimited sources of demand? If honey is better than glucose for beer, why? It is many times sweeter; but cane-sugar is many *more* times sweeter. Honey is thicker, and contains more vegetable matter than sugar; but glucose is much ahead of honey in this respect.

If honey is to rival these products above mentioned, won't some one please rise and explain why? I hope such may be the case, but in so important a matter as this is to my future earthly welfare, I beg of the knowing ones for the why and wherefore of their belief that such will be ours to enjoy. I am aware that whisky and tobacco make a morbid demand for more, but many kinds of food all of which were new some time in past history, have *become a necessity* to our well-being. I am of the opinion that honey is not to rise above a luxury of occasional enjoyment, and must be a beggar in every turn of the times.

To the source of an adjunct to the manufacture of some other commodity do I pin my last hope for the future welfare of the honey producer. Please let us hear of any new ray of light that has been discovered in that direction by any one.

I may be wrong in my conclusions, and may it be that I am, but when I hear those "enthusiastic" ones (and Prof. Cook says bee-keepers are "enthusiasts" universally), I think of the Rev. Joshua Billings' definition of an "enthusiast." He says, "An enthusiast is one who believes five times as much as he can prove, and can prove five times as much as any one else will believe."

We are told that honey is about to become an article of general use, and yet many of these same persons tell us to put up this "staple commodity" in little "tiny" cards—say 4¼x4¼—and then be sure to put glass enough on both sides of the honey to outweigh it, as the glass being transparent will not be objected to. Suppose you try some *other* staple in that way. For instance, put up granulated sugar in one-pound glass jars, baking-powder (a thing of a few years' time) in glass boxes. Why, we can't stand *tin* boxes any more. It has become a staple in towns and cities at least, and we buy in bulk. As Mr. Bingham said at Convention, about house apiaries, "Talk may say one thing, but what do actions say?" In my opinion, those dealers who beg for *little glass* boxes haven't got very far into the staple business yet. A. I. Root's and others' methods of shipping sections in *glassed cases*, and only asking the consumers to buy as little as possible besides the HONEY, looks more to me like an effort to place honey among the staples. Nothing can stand more in the way of the general introduction of our produce than so much tare on comb-honey, and the taking of clear honey before being capped and thoroughly "ripened."

Dowagiac, Mich. JAMES HEDDON.

For the American Bee Journal.

How to head off the Robbers.

Occasionally we have, in the JOURNAL, complaints from bee-keepers that thieves break open their hives, steal honey, or commit various depredations.

To those who are in danger of suffering loss in that way, I would suggest a very good remedy, namely, the "Burglar Alarm Telegraph."

About two years ago, I put up one of my own construction, with wires running underground to a smoke-house, and signal bell on the mantel-piece in my bed-room.—Although the wires were laid by myself, and every endeavor made to keep secret the object and uses of the apparatus, it got out one morning, by the smoke-house door being opened before the current was turned off and while a servant was in the room where the alarm bell was placed. In a very short time thereafter the news was pretty generally circulated, especially among the colored portion of the neighborhood, that my premises would be a very dangerous place to visit after the usual hours for paying neighborly calls. Private inquiry convinced me that bacon would have to be very scarce indeed before any of my "friends," especially the colored ones, would try to replenish their larders at my expense.

For the benefit of those who may wish to try this defense against robbers, I will give such points in the construction of a burglar alarm, as will enable any one familiar with the principle of the telegraph to put up one of their own:

For a conductor, use copper bell wire, number 18; the size may vary considerably from that without disadvantage. If to be laid underground, half of it must be insulated, and all the doors or gates from which

signals come must be on the insulated line; the return circuit may be of naked wire and lay in the same trench. I will here say that a return wire is necessary for short circuits and weak battery power, ground connections in such cases not working well.—Cores of magnets are of soft iron, about ⅜ of an inch in diameter, bent horse-shoe shape; wrap on 8 or 10 layers of the insulated copper wire. The alarm bell may be rung by an ordinary clock alarm. The magnet connected with the circuit wire holding the controlling wire of the clock alarm in such a manner that when the circuit is broken and the magnet ceases to act, the clock alarm rings until it runs down, or is stopped by hand. The battery used may be a very simple Daniell's battery of zinc and copper in blue vitriol, such as is used in telegraph offices; one small cell will suffice, and need not cost over 50 cts. per month to run. If preferred, the alarm bell may be connected with another small battery of the LeClanche pattern, so as to ring continually until stopped at the instrument.

I corresponded with parties in New York, who deal in electrical apparatus, and they recommended, for underground wires, insulated copper, at 8 cts. per foot, for both outgoing and incoming wire. I insulated my outgoing wire by wrapping two coats of cotton thread, and two coats of wrapping twine and then boiling it in a mixture of coal tar and gum shellac. The incoming wire was used as aforesaid, without insulation. The way I wrapped the thread on was by using a small piece of gass pipe for the spindle of a spinning wheel, upon one end of which was a block, carrying two spools of thread. The wire to be wrapped was pulled slowly through the hollow spindle, while the spools revolved around it; thus wrapping on the thread as thick as needed.

The gates and doors, or bee-hives, to which the alarm is connected, have the usual "contact plates," two small pieces of brass, to which the wires are attached, so that when the door is opened the plates separate, thus stopping the current of electricity and causing the alarm bell to ring.

The cost of apparatus, such as mine, need not be more than $5, and two or three days' work to put it up. CORN CRACKER.

Feb. 1878.

For the American Bee Journal.

Some Apologies.

I wish to apologize first, for doing anything that might make it necessary for my name to occupy so much valuable space in the pages of the AMERICAN BEE JOURNAL, as it does in the March number.

When I wrote as I did about John Long, I supposed I could turn at once to the pages of the *British Bee Journal* for the evidence; as I find in place of it only the complaint given on page 28 of the June number, for 1876, I am forced to the humiliating conclusion that I had got the matter mixed up with some other complaints, of which there have been quite a number. I certainly did very wrong not to have looked the whole matter up, and made my evidence complete, before going into print. I beg Mr. Long's pardon, and think under the circumstances, I should do a little more.—As you say he is trying to pay up all old scores, and to stand square with the world again, I will lend a helping hand, by sending comb foundation to all who sent him money and never received their goods. If Mr. Long thinks proper, he can pay me back when he gets around to it. He advertised and received money under the name of John Long, and no other name appeared in his advertisements or letters, and I never knew he had another name until it was announced that Wm. Hoge and he were one and the same man. I appealed to him through *Gleanings*, and gave his address to those who had sent him money, but never learned that any one could get a word from him, until you mentioned in the March number that he was going to pay all up.—Friend Hoge, would it not have been kinder to have written as much to your creditors?

I am very glad indeed that friends Doolittle and Betsinger have not quarreled.—May we not soon have a little card with both the names signed to it, saying that they are friends, and only had a difference of opinion?

I got the impression that each competitor was to pay $7.00, from the single line, on page 310, of your September number:—"One fee ($7.00) will be charged." The same was in a circular sent me. I beg Messrs. Thurber & Co's pardon, and will try and be more careful.

The rest of the charges friend D. makes, are, I think, mistakes which he will admit when I show him the letters he has written me. As this can be done privately, I think no more time need be taken up with the matter here.

In regard to the last clause, I frankly admit, that Satan must have been pretty close to my type writer when I wrote that article "Trouble." I see now, that I was off the track, and I humbly beg pardon of all parties.

If I have boasted of my goodness in *Gleanings*, I agree with you, friend D., it *was* all a sham, for I am a great ways from being "good," as you are all aware.

To friend Heddon I would say, that I did not intend to advise selling honey for 5c. as long as we could get more. I would assuredly sell my honey for as much as it would bring, but I would *try* and be happy, if I could get only 5c. I guess I did owe friend Burch the $50, for I told him to make out his bill of damages for the foundation being thicker than he ordered it, and I would pay it. I did not tell friend Becktell the same thing, and therefore, I did not see that I was in duty bound to "keep the bank open." Do you think I was? I believe friend Becktell was perfectly satisfied with the way the matter was arranged, as were all other parties. I made good all I promised, paid for all the blunders I made, and filled all orders honestly. Did I not, friend H?

"The "new light," I hope, made me a better man; especially in regard to confessing my faults when I saw them, but it did

not make me perfect, by any means. I cannot blame you for thinking I make but a poor show, for I often feel almost discouraged about it myself. I think I am doing right about the smoker, and as I am sure friend Bingham thinks he is doing right, I guess we shall arrange it pleasantly. If I have spoken unkindly, or jestingly of some of your queer views, friend Heddon, I beg your pardon, and will try to do so no more. If I ever go to Michigan again, I am going to see you, and I hope you will talk right out, just what you think. I very seldom quarrel with people when I can see them face to face.

Will all those whon John Long owes foundation please write me the full circumstances?

May God bless the AMERICAN BEE JOURNAL and all its readers, and help me to remember, whatever may turn up, what I have just said. A. I. ROOT.

Medina, Ohio.

[These apologies show that friend Root has been benefited by the "new light," and we are glad to see the spirit manifested, as well as the frank acknowledgements therein made. "Confessing our faults, one to another" is a duty enjoined upon us, and we always feel better for obeying it. Truly, "to *obey* IS better than sacrifice." It brings down Heaven's richest blessings upon us, as well as our injured brothers.—ED.]

For the American Bee Journal.

Chips from Sweet Home.

For the benefit of the readers of the AMERICAN BEE JOURNAL, and more especially those who have not been able to call upon the Editor, in his office, I will give a brief description of what I saw there. We got off the C. B. & Q. train, walked 3 blocks, took the horse-cars, rode thereon, about 3 miles for 5 cts., to 974, West Madison St.

Here, upon the first floor, we found ourselves in a large capacious room; upon the right was quite a large collection of apiarian supplies, upon shelves protected from dust by sash. Upon the left was a variety of "honey slingers," and hives. At the farther end was the printers' cases, where our letters and articles were being set up in shape for thousands to read. In the center and on the left of the room is the Editor' easy chair and office; I should have said there were two chairs, one for T. G. N., and one on his left for his Son, for they are both as busy as bees, every day, every month of the whole year; their whole time being devoted to the interests of the AMERICAN BEE JOURNAL.

To those not accustomed to the Editor's Chair, it may seem an *easy chair*, but such, brother bee-keepers, is not the case with the editor of our BEE JOURNAL. Having served, a short time, in an editor's office, (as a devil? Oh no!) we know what some of his duties are, and will give you some idea of it: First, he reads *all* your letters and articles, *if possible*. Why, says one, can he not read them *all?* No, he cannot; for some are so poorly written that a Philadelphia lawyer could not read them; others need re-writing and correcting before they go to the compositor, and many, very many he only glances over, and is compelled for want of room to throw into the waste-basket. Were our Editor to put in all our articles, letters, and clippings from foreign bee journals, also some from home papers, he would need a journal four times as large.

Then, friends, two things are necessary. First, that he should discriminate, clipping some and discarding others entirely. Secondly, on our part, to *boil down* our letters and articles, telling our ideas in as few words as possible, so that they will occupy as little space and convey our ideas as forcible as language will permit. First, then, be sure you have something to write that others will want to read; secondly, write it in as few words as possible, and, if you are not accustomed to writing, look over your article and see how much you can shorten it; by thus doing, you will improve your article for publication.

These articles *boiled down*, (*multum in parvo*), are the ones more eagerly read and longer to be remembered than those long, dry, tedious columns. So, in conclusion we would say *boil them down*.

D. D. PALMER.

Ventilation of Bee Houses.

ARE BEE HOUSES NECESSARY?

There has been, and still is a strong effort upon the part of some to do away with houses to winter in. The substitution of cushions and chaff mats are intended to supersede winter repositories; but, if a repository is so constructed as to be a complete success under all conditions of the atmosphere, it is far in the advance of all mats and cushions, bundled about the bees on their summer stands.

1. The bees never fly and waste.
2. The value of a house is soon saved in honey.
3. The bees are prepared for winter, and put away with less expense.

BEES CONSTANTLY NEED FRESH AIR.

Those who have been observing have learned, from the influence of warm air upon their bees in winter quarters, in Dec. last, to keep bees quiet, they must be constantly supplied with fresh air, in sufficient quantities to preserve a normal condition of the atmosphere.

WHAT SHOULD BE THE TEMPERATURE?

That depends altogether, or largely so, upon the purity and motion of the air.

Place a thermometer at the ceiling of a bee house 60° fahr., and another at the floor 54° fahr., and the bees at the floor 54° are wasting more than those above at 60° fahr.

There is no effect without a cause.

WHAT CAUSE PRODUCES THIS EFFECT?

The normal condition of the atmosphere has been destroyed by the respiration of too

many bees for the amount of circulation in the room.

As the oxygen is consumed, the nitrogen becomes light and ascends upward, leaving the carbolic acid gas to effect the bees at the floor.

If the air is pure and the motion strong, 50 or 55° is not too warm.

HOW TO VENTILATE THE ROOM.

Every bee house should be furnished with a refrigerator, an underground air duct, which will at all times, not only furnish fresh air, and a strong current, but cool air when the atmosphere is warm, and warm air, comparatively, in cold weather.

Atmospheric pressure being 14 lbs. to the square inch, run an air duct through tiling, of 6 in. capacity, 5 feet underground, for 200 or 300 feet; the opposite end from the house, or mouth of the refrigerator in the house, about 6 feet the lowest, with the slant of the ground, and a wonderful current of air is created in the house, on condition that it is permitted to escape above.

When the temperature of the atmosphere in the bee house and out doors are the same, the air would stand still in the air duct, and must be started by a stove-pipe, connected with the flue or chimney in an upper room, while the air rushes in at the base of the chimney in the cellar or bee house.

WILL IT PAY?

When we take into account the pure, healthy, and cool (not too cold) condition that our bees are in, and the amount of honey saved by housing,—and not only so, but how this cool, pure air can be utilized in summer—saving milk, butter, meat, etc., forbiding everything to rust or corode, it must pay.

This warm winter admonishes me that my bee house is incomplete without a refrigerator, and it shall have it.

I removed the last of my 237 colonies from their winter quarters, on March 1st, without the loss of a colony or queen during the winter.

This establishes one fact, that plenty of heat and fresh air is the great secret in wintering bees.

The loss of queens in a temperature of 35° or 40° fahr. will average about 1 to every 25 colonies.

I had my 237 colonies and some of my neighbors' bees in a room 25x12 ft., and the most of the winter, the mercury stood 55° to 60° fahr., with the doors and windows open nights.

Camargo, Ill. A. SALISBURY.

For the American Bee Journal.

Dadant against himself.

MR. EDITOR:—If any of your readers will take the trouble to go back to vol. 12, page 188, they will find a short article, read before the Michigan Bee-keepers' Association, on the improvement of the Italian bee. My object, in that paper, was to draw attention to the fact that the Italian bees were *not* uniform in color—not yet a fixed variety. I pointed to the drones, as one of the means whereby we might obtain a more uniform color; and also stated that there were a great many dark, and even black bees in Italy. Thus showing the necessity of a more careful method of breeding.

Mr. Dadant, on page 205, has criticised my remarks, and says there are no black bees in Italy; and, as I understand him, not even hybrids. And further, offers to pay $200 to any one that will prove it.

Now, seeing I am included among those who believe that there *has* been black bees there, if not now; and, of course, plenty of hybrids, I endeavored, in vol. 13, page 127, to "give a reason for the faith that is in me," by giving the testimony of some very eminent men upon the subject. Men, too, whose evidence will be hard to set aside.—I also gave the evidence of Mr. Dadant himself. I extract the following from my reply as then given:

"Vol. 8, page 86, Mr. Dadant was in Italy, as late as 1872. He writes: 'Sartori says that there is some *black* blood mixed with the Italian, on the frontiers of Italy.'—Again, on page 87, Mr. D. makes this remarkable statement: 'I am now wondering why Mona wrote that all the bees of the Italian peninsula were pure Italian, when he *ought* to have known that there were such enormous differences in their color and character.'"

Now, is it not very plain, that when he wrote the above, that he believed that there were impure or hybrid bees in Italy? I have no knowledge, however, of *when*, or *why* he changed his views. In my last reply, I said nothing about his offer; but, seeing that he paid no attention to the evidence given, and has made another bold challenge in vol. 13, page 308, I now claim the $200. I have no idea, however, of letting Mr. Dadant be the judge or jury, but suggest that you appoint as many intelligent bee-keepers as you think best, yourself included, and let them say whether I am entitled to the money or not. I will cheerfully abide their decision.

GEORGE THOMPSON.

Geneva, Kane Co., Ill.

[We are sorry to be called upon to select a committee to decide this question—much preferring some other person to do it. But, as it seems to be so decided by friend Thompson, we will, if friend Dadant acquiesces in such appointment, suggest that friends A. I. Root and A. J. King act with us, as such committee.—ED.]

For the American Bee Journal.

Division Boards.

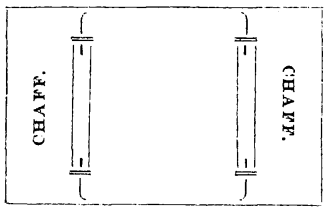
DEAR EDITOR:—I have derived so much benefit from the pages of the JOURNAL, that I desire to contribute my mite.

Now that the use of the division board is becoming so important to the successful wintering of bees, what we need is one that will meet the requirements. I think every bee-keeper will agree that absolute accu-

racy in dimensions of hives has not been attained.

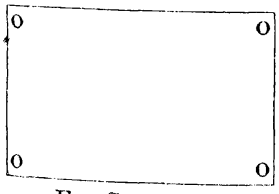
I have a variation of ¼ inch in some, owing to a variation of ⅛ inch in the planing-mill dressing. It is plain that a rigid division board will not be interchangeable, and divide off tightly any way. I have devised an improvement, and find it so valuable to me that I submit it to the fraternity for approval.

It is the ordinary board, ½ or ⅝ in. thick, and sawed ½ in. or ¾ in. short, and slotted by a saw at the end, so as to take in a strip of thin rubber packing, so as to project about ½ in. I prefer one at each end. It makes as nearly an air tight joint as necessary, and holds its place admirably without hanging, and needs no top bar or projection, and will, I believe, answer fully if the rubber is at each, projected inward towards the combs to support chaff packing in the outer space, and so do away with chaff cushions for all who use movable bottom boards, thus:

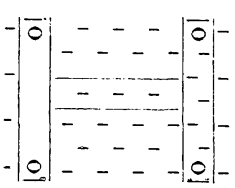


It is simple and cheap. In the spring all that is needed to unpack is to lift off and let the chaff drop, and it is done. But really, with a *tight* board, chaff is not needed so much, for air is a non-conductor of heat.

I have also to suggest an improvement to the shipping case. It is a thin false bottom for sections and a frame for those who ship in 3 section frames with a hole at each corner for the insertion of a short rubber cylinder to fit close, with a projection proportioned to the weight. The rubber can be got in coils and cut off squarely and inserted; ⅜ or ½ in. round rubber will do. This will add very little to the cost of crates—far less than Mr. Hoge's plan, and save much weight. One inch additional depth of crate will be required. The holes must not be bored quite through.



For Sections.



For 3 sec. frames.

J. W. PORTER.

For the American Bee Journal.

Extracted and Adulterated Honey.

This is now the question of the day, and a very vital one, too.

Probably, the most useful thing done by the National Society, since it was founded, was the publication of "*Facts for the public;*" from which I intend to quote, for argument.

"Comb honey is no better than extracted honey."
"Almost all pure extracted honey will granulate."
"The granulated state is a fine evidence of purity."

The honey question lies entirely in those propositions, and if they were only properly applied by all, there would be no need of discussion on the subject.

For instance, Prof. Cook argues that all extracted honey, if pure, will granulate; that granulation is evidence of purity; and still, he advises, in the AMERICAN BEE JOURNAL, (p. 79), to melt honey before selling it.

Now, a few questions: Why does he advise to melt honey, instead of selling in the granulated state? Does he not see, that the moment honey becomes a liquid, it is on a level with the adulterated, which is always liquid, and drowned in 60 or 75 per cent. of glucose? Is he not then favoring adulterators, by making his honey look like theirs?

Will he say that honey does not sell in the granulated state? Then what will he do if his honey granulates in the hands of the purchaser? Would it not be better to teach them that "the granulated state is a fine evidence of purity?" Or, is he willing to keep up a *delusion*, for the sake of selling a little honey *now*, and to help injure the sale of the evidently pure honey of the large producer, besides running the risk of having honey stamped as "doctored," by *those who know* that it should be granulated, if pure?

Nay; Is it rational to take the trouble to melt granulated honey, for sale, when he acknowledges that granulation is the *only easy* way to ascertain purity?

I agree with the decision of the North-Eastern Convention, on this subject, (page 90), provided this paragraph be made to read as follows:

"It was agreed that the effect is very injurious, both to producers and consumers of honey." .....
"If honey is kept from candying, it is adulterated."

Friends, please turn to the cover page of the AMERICAN BEE JOURNAL; it tells you that our old and reliable periodical is devoted to the production of *Pure Honey.* Yes, pure! And we, U. S. Bee-Keepers, will stop that adulteration, in a short time.

Friend Root seems to be under the same delusion as Prof. Cook, for he says:

"Some attempts have been made to get honey into a marketable shape in its candied state; but, so far, have been unsuccessful."

We have had a honey extractor ever since it was invented. In fact, we had one made, according to our ideas of it, before any were manufactured for sale. Since that time, we have raised more extracted than comb honey, and sold it in the *granulated* state, at paying figures; except the first season, when we had extracted it too soon, and it was thin and watery, of poor quality, and, of course, not entirely granulated.—We then found some customers who did not like granulated honey, or who imagined that it was "doctored;" but *now* we find that it sells *better* than liquid honey.

We raised, this season, some 13,000 lbs. of honey; 9,000 or 10,000 lbs. of which being extracted. One-half of it was sold in our home markets. The rest, together with the comb honey, was sold in St. Louis,

where it sold very readily. Now, all we have left is about 500 lbs. of comb honey, and 200 lbs. extracted.

Conclusion: We will raise nothing but extracted honey.

I cannot praise too highly, the ideas of Mr. Clute, as given on page 73, showing that low prices will *not* injure the bee business; but, on the contrary, will encourage it.

We have sold honey this year at 10c. per lb., and at that price *it pays*, and every body can buy it.

May I make a prophecy? In 10 years from now, granulated, extracted honey will alone be in large demand, and will sell as high as comb honey, if not higher. Honey will then be put up, like butter, in tin or wooden pails, or in jars; and not in cans or barrels, with a faucet to draw off, like glucose.

A few words of thanks to Messrs. Hetherington, J. H. Martin and others, who support the true way. We shall be the winners, for tens of thousands follow us, and approve. C. P. DADANT.

Hamilton, Ill., March 12, 1878.

For the American Bee Journal.

The Norway Maple.

A CORRECTION.

After reading Prof. Cook's remarks on "Norway Maple" in your last, I suspected a case of "mistaken identity" for I was sure if he and I meant the same tree he would have spoken differently. The tree in question is quite common near me. I have several fine specimens on my lawn, and they are planted on both sides of the avenue all along Prospect Park. They are called here by the people and nurserymen "Norway maple," and I have accepted that name for them without question; but now, examining the descriptions, I find that they do not answer to that of *Acir platanoides* but as far as I can judge by such parts as I can now find and recollection of other parts, they are the *Acer pseudo-platanus* or Sycamore maple. I will add that no other maple, and I believe, *no other tree*, not even the famous linden, can compare with them in the quantity of honey they yield. They bloom just before white clover, and the trees are literally covered with it—100 to 1 on the basswood—and every flower fairly drops with honey. The air is filled with their odor for rods around and the bees swarm over them from early morning to dark, and even all night if there is moonlight. I did not, at first, like the flavor of the honey, but after eating it freely for some time I enjoy it almost as well as buckwheat, which I take for my standard. Several old bee-keepers who have visited me and to I have sent specimens, pronounce it, on first taste, the finest honey they ever saw. It certainly cannot be surpassed in whiteness, even by teasel. The tree is of rapid growth, and one of the finest of the maples for ornamental purposes. I notice all the seed dealers in New York have them on their lists. J. HASBROUCK.

Flatbush, L. I., Feb. 18, 1878.

Table Syrups.

The following is the full "Report of the Michigan State Board of Health," on a special investigation concerning impurities and adulturations in Table Syrups. At this time this Report will be read with special interest:

Many weeks ago a can of syrup was placed in my hands by Prof. Beal, which has the following history:

A family by the name of Doty, of Hudson, Mich., purchased some syrup of a grocer in that village. The members of the family ate freely of the syrup, and were all made very sick by its use. They became alarmed and sent a can of the syrup to the Agricultural College for analysis, supposing it to contain poison.

Other families in the vicinity became so alarmed by the singular sickness in the Doty family that they returned their syrup to the grocer. The grocer had purchased the syrup from a very respectable wholesale dealer in Toledo, Ohio, who claimed to have bought it from the manufacturer for pure cane syrup.

The syrup was of a light yellowish-brown color, and looked like a very respectable syrup. It had a decidedly acid reaction with blue litmus paper, turned black when sulphide of ammonium was added to it, and gave a heavy precipitate with oxalate of ammonia. On analysis, I found that the body of the syrup was made of starch sugar (glucose) instead of cane sugar. The amount of foreign impurities will be given in the results of examination, being No. 9 in that series. The free sulphuric acid (oil of vitriol), the sulphate of iron (copperas) and sulpho-saccharate of lime were probably the cause of the sickness in the Doty family.

The results of the analysis of this syrup induced me to examine a number of table syrups to ascertain whether similar adulterations exist in other varieties of table syrups.

Dr Letheby, in his admirable work "On Food," states that the Anglo-Saxon population of England and America consume, annually, 41.4 lbs. of sugar per head; the Latin race, including the inhabitants of France, Italy, Spain, Belgium, Portugal and Switzerland consume 12.34 lbs. per head; the Teutonic race of the Zollverein, Austria, Holland, and Denmark consume 7.3 lbs. per head: while the poor of Russia, Poland, Turkey and Greece consume only 3.3 lbs. per head.

The Anglo-Saxons are pre-eminently a sugar-consuming race. There are few luxuries so prized by Americans, for whom the chief articles of table luxury have sugar as an important element. The large consumption of sugar is not confined to the wealthy, but is almost equally as common with those of limited means. To defraud the poor man of his sweet, is to cheat him out of the chief table comfort which his poverty can afford.

Before giving the results of my examination of table syrups, I will remind my read-

ers of certain facts regarding sugar. There is a large class of substances included in the general term, *sugar*. Only two are of sufficient commercial importance to demand our attention at present. One is termed by the chemist, *sucrose*, and includes cane sugar, beet sugar, and maple sugar. These sugars are chemically identical, and possess the same amount of sweetening power. Sucrose exists in the sap of a great variety of plants, and has never been manufactured from any other material.

The second class is called *glucose* or grape sugar; the white lumps of sugar in raisans is glucose. This kind of sugar may be manufactured from other materials, *e. g.*: from starch, woody fibre, etc. While it is possible to make this kind of sugar out of old cotton and linen rags, paper, sawdust, &c., yet it is not profitable to do so, because of the time required to make the change and the dfficulty in purifying and decolorizing the sugar when it is made. But this sugar can be very rapidly and economically made out of starch, and the manufacture has been carried on in France for a long time, and seems to have been intrduced into this country.

The chemical composition of cane sugar differs from that of starch only by one molecule of water, while grape sugar differs from starch by two molecules of water. If we could chemically combine one molecule of water with one of starch, we could make cane sugar. Chemists have attempted this by boiling starch with dilute sulphuric acid, but they always overdo the matter, adding two molecules of water, thereby getting grape sugar instead of cane sugar. If chemistry shall ever enable us to readily and cheaply combine the one molecule of water with starch, then the millennium of the sugar lovers will have come, for a bushel of corn will then make about 25 lbs. of cane sugar.

But chemists have not yet solved this problem which taxes their ingenuity only to tantalize their endeavor.

But while chemists have been baffled in their attempts to convert starch into cane sugar, they have found it very easy to convert starch into grape sugar. I will briefly describe the process as given by Payen, because we shall then more fully comprehend the results reached in the examination of certain syrups.

The saccharification of the starch in France is carried on in large wooden vats, capable of holding 2,800 gallons. The contents of the vat may be heated by forcing in steam through a coiled steam pipe at the bottom. The steam pipe is perforated, to permit the steam to escape at many points into the contents of the vat. In France the steam pipe is made of lead; in this country I suspect they use iron pipes. When 2 tons of starch are to be converted into sugar, 32 bbls. of water and about 80 lbs. of sulphuric acid are placed in the vat, and the whole heated to 212° by forcing in steam. Two hundred lbs. of starch are then mixed with 23 gallons of water and stirred up, and 4 or 5 gallons of this mixture are run into the vat. The temperature is kept up to the boiling point all the while, and successive charges of starch are run in till the whole amount is converted into sugar.—The steam is then shut off, and chalk is added in a sufficient quantity to neutralize the sulphuric acid, but if too little chalk is used, free sulphuric acid will be left in the contents of the vat. The sparingly soluble sulphate of lime is formed, and much of it settles to the bottom of the liquid; the clear liquid is drawn off and evaporated by steam heat till the proper destiny of syrup is secured, or until it will crystalize on cooling and standing for several days, according as they seek to make syrup or sugar.

This brief description will assist us to understand why certain impurities are found in these starch-sugar syrups. If iron pipes are used to convey the steam for heating the contents of the vat, the sulphuric acic will attack and dissolve some of the iron, and thus sulphate of iron (copperas) will appear in the syrup. If too little chalk is used, free sulphuric acid will remain in the syrup. The chalk being carbonate of lime, its use will explain why lime may be found in large quantities in the syrup. As chalk is insoluble in water, and sulphate of lime is very sparingly soluble, many persons would suppose that little or no lime would remain in these syrups. But we must bear in mind that sugar itself acts the part of an acid with many substances.—Thus there are two well known salts formed by combination of lime and sugar; one containing one equivalent of lime to one of sugar, the other containing 3 equivalents of lime to one of sugar.

These sucrates of lime have lost, entirely, the sweet taste characteristic of sugar, and have a bitterish taste instead. Last spring some students at this College brought me a small quantity of a whitish, granular mass, which deposited from the maple syrup in "settling" to make maple sugar. The sugar boilers called it *sand*, as it is hard and gritty, insoluble in water, and destitute of any sweet taste. On analysis I found the material to be nearly pure sucrate of lime, containing in addition a small amount of phosphate of magnesia. Here was the natural formation of the sucrate of lime from the elements of plant food contained in the sap.

Not only will sugar thus combine with lime, oxide of lead, oxide of iron, &c., but it will associate with itself sulphuric acid, and form a compound acid which comports itself very differently from simple sulphuric acid. This sucro-sulphuric acid forms a pretty large class of salts which are soluble in water, but especially soluble in solutions of sugar. Reagents which will readily precipitate sulphuric acid and sulphates, *e. g.* chloride of barium, will not precipitate the sucro-sulphates.

Glucose has the same power as an acid substance as sucrose, forming a class of soluble glucosates. It will also associate with itself sulphuric acid, and form a class of gluco-sulphates. Undoubtedly, a large part of the lime found in these starch-sugar syrups exists in the form of gluco-sulphate of lime. The sparing solubility of sulphate of lime in water is no guarantee that these syrups will not contain a large

amount, because it may exist in the form of the soluble gluco-sulphate of lime.

One evil connected with the presence of lime in syrups is the destruction of a portion of the sweetening power of the syrup. One part of lime will destroy more than six times its weight of sugar, so far as any sweetness is concerned; and the compound of lime and sugar is bitter.

In making my selections for examination, I obtained specimens only from those who are regarded first-class tradesmen. If syrups bought at such places are adulterated, we may well suppose that the inferior class of dealers will have no better articles. Some have said that, undoubtedly, poor people who trade at small groceries are swindled in these syrups, but that the respectable class of citizens who patronize first-class grocers need not apprehend any such imposition. I determined to follow up "the respectable citizen" and see what syrups he obtained of "first-class grocers." Part of the specimens were obtained near home, but the most from abroad. I have examined 17 specimens in all, with the general result that 2 were made of cane sugar and 15 of starch sugar or glucose.

SPECIFIC RESULTS OF EXAMINATION OF TABLE SYRUPS.

No. 1.—Pure cane sugar syrup.

No. 2.—Starch sugar syrup. Contains some sulphate of iron (copperas), and contains in each gallon 107.35 grains of lime.

No. 3.—The grocer called it "poor stuff." I have seldom seen an article that better sustained its recommendation. Made of starch sugar; contains plenty of copperas and 297 grains of lime in a gallon.

No. 4.—Nearly pure cane sugar syrup.

No. 5.—Starch sugar syrup. Contains copperas, and 100 grains of lime in a gallon.

Nos. 6, 7, 8.—All made of starch sugar.—Contain sulphate of iron and plenty of lime.

No. 9.—This is the specimen from Hudson which caused the sickness in the Doty family. A starch sugar syrup; contains in the gallon 71.83 grains of free sulphuric acid, 28 grains of sulphate of iron, and 363 grains of lime.

No. 10.—Contains starch sugar, copperas and lime—amount not estimated.

No. 11.—A starch sugar syrup. Contains in the gallon 141.9 grains free sulphuric acid, 25 grains sulphate of iron, and 724.83 grains of lime.

No. 12.—Contains starch sugar, seasoned with sulphate of iron and lime.

No. 13.—Starch sugar. Contains in the gallon 58.48 grains of sulphate of iron, 83.14 grains of free sulphuric acid, and 440.12 grains of lime.

No. 14.—Starch sugar.—Contains in a gallon 80 grains of free sulphuric acid, 38 grains of iron and 262.48 grains of lime.

Nos. 15, 16.—Contain starch sugar, sulphate of iron and lime.

No. 17.—Starch sugar, sulphate of iron, and 202.33 grains of lime.

A very important element in this discussion is the great disparity in sweetening power between cane sugar and starch sugar or glucose. One pound of cane sugar has the same sweetening power as 2½ pounds of glucose. In these starch-sugar syrups, the public is not only treated with compounds, loaded with foreign and injurious materials, but they are enormously cheated in the very thing they seek to buy, viz: the sweetness. Sugars and syrups are bought, not as articles of food solely, but entirely for *their sweetness*, and thus the buyer is largely defrauded out of the very thing for which alone he makes a purchase.

The thought of using such mixtures as a relish for our food is not very appetizing.—Some of these drips seem to be made up of about equal parts of fraud and dirt! A facetious friend has quoted, in this connection, the old saying, "A man must eat his peck of dirt before he dies." If any one feels uneasy lest he be defrauded of "his peck of dirt," let him eat a few gallons of No. 11, and he may rest on his laurels the balance of his days.

WHOSE FAULT?

The public will naturally ask, "Who is to blame that such disgusting and fraudulent mixtures are sold in the shops?" I do not think that the retail dealers are "sinners above all that dwell in" Michigan, in this respect. Most of them honestly suppose that they are selling a good article of cane sugar syrup, and are themselves surprised that so good-looking syrups can be sold at so low a price compared with that of sugar—a price often less than that of the dark colored and strong flavored molasses which remains from the manufacture of cane sugar. The manufacturers are chiefly to blame in this matter, for they cannot be ignorant of the fraud in selling glucose for cane sugar; but even they will probably be surprised to learn how large a quantity of foreign materials is left in these syrups.

TESTS.

It is popularly supposed that an infusion of tea-leaves will certainly detect the presence of starch sugar, by the dark coloration which it imparts to the syrup. Strong tea will give a re-action of this kind with a salt of iron—the same re-action which makes black ink; hence strong tea may be used to detect the presence of copperas in syrup; but it will give no re-action with grape sugar containing no iron.

In most of these syrups, lime is the largest adulterant aside from the starch sugar itself. Lime may easily be recognized in the syrup by a solution of oxalic acid. Dissolve 1 ounce of oxalic acid in a pint of rain water; if the solution is not clear, let it stand for a few hours till it settles, then pour off the clear solution into a clean bottle and label it OXALIC ACID—POISON. To test the syrup, place a tablespoonful in a tumbler half full of rain water, stir it up, and add a tablespoonful of the oxalic acid solution. If there is much lime in the syrup it will show itself by a white precipitate, the amount of which will give some measure of the amount of lime present.

R. C. KEDZIE.

AGRICULTURAL COLLEGE,
Lansing, June 30, 1874.

For the American Bee Journal.

Creating a Honey Market.

DEAR EDITOR:—The February number of your valuable JOURNAL is at hand. On page 41, I notice an article by friend R. M. Argo, of Lowell, Ky., about various matters, in which the first sub-heading is:—"Honey Market."

To create a larger demand for honey, I think it would be a good plan, if you would collect some recipes, like that of making jellies, etc. with honey, which is, for a good many purposes, superior to sugar; print them, with some articles about its superiority and healthfulness over sugar, syrup and molasses, in pamphlet form. I think every bee-keeper could afford to buy liberal quantities and distribute them among the people in their vicinity. This, no doubt, would help to create a larger demand for honey, as it would be read by a great many who do not read a newspaper. Will you try it?

Mr. Argo speaks very truly of an enemy to the bee-keeper, the "glutted market."—In my neighborhood, there are some farmers that keep from 5 to 20 colonies each, who raise from 1 to 300 lbs. of honey; they are anxious to dispose of it. They consider it a "big pile," and consequently offer it below the local market price, and that having been once reduced, people are not willing to pay more afterwards. If the larger apiarists will not sell their honey for the same price as these farmers do, they cannot sell any, as long as these farmers have any left for sale.

It does not come into their minds to subscribe for THE BEE JOURNAL, or buy any books treating on bee-culture. If there is any trouble among their bees, they frequenty go to apiarists to inquire what to do with them, etc. Without such information, it would sometimes be costly to them.

Therefore, I think such a small pamphlet, as is above mentioned, were printed, with name of producer on it, it would be a great help to enlarge the demand for honey in the vicinity of every bee-keeper, and I, for one, would buy a good quantity of them.

I retail honey at home: Extracted, 12½c. per lb. Comb, (small lots, from 4 to 5 lbs.), for 20c. per lb.

Bees are doing well in the cellar. I put in, last fall, 159 colonies, in good condition. We have had an unusually mild winter here, and very little snow.

FRED CLAUSSEN.

Mishicott, Wis. Feb. 7, 1878.

[You are right, friend Claussen. A neat and attractive pamphlet, setting forth the various uses, both for food and medicine, of *pure honey*, as well as its general adaptation to the wants of the human family, would do much good, just now. No one can conceive how much it would help in *creating a demand* for that wonderfully nutritious, health-giving and soul-reviving produrt of nature!

Before the advent of sugars and many vile compounds, called "syrups," "silver drips," &c., honey was the only sweet in general use. And to-day it is the common article of food among many nations, especially among the Polanders, the Russians, and the inhabitants of the Orient. And it is a notorious fact that those nations, among whom the use of honey is general, excell all others in health, physical strength and endurance!

It is undeniable that *pure honey* is the simplest, the healthiest, the most natural, and the most strengthening article of food for healthy persons, as well as the best remedy for the sick; and for the convalescent it is the true balsam of life, to restore them to their wonted health and strength!

Knowing these facts, we *cannot* dodge the responsibility—and though we are much crowded with other duties, we will, at once, write the pamphlet requested by friend Claussen.

On another page may be found a prospectus, mapping out the line of thought to be pursued, and soon after this JOURNAL is in the hands of subscribers, we hope to have the pamphlet ready to send to all who desire to co-operate in this most laudable enterprize of giving valuable information to their fellow men, and at the same time aid in creating an over-whelming demand for this wonderful product of nature—PURE HONEY.

To make its appearance inviting, we shall print it in plain, readable type, on fine book paper—for much valuable information is rendered useless, when poorly printed on inferior paper.

A sample copy will be sent post paid, for 10 cents. We shall supply them in lots of 100 or more at a very low rate, to encourage all to take hold of the enterprise. Without extra cost, we shall also print on the top of the cover-page "Presented by," &c. (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a fair and profitable price.

In lots of 100 we will send them, postpaid, for 5 cents each; in lots of 250 copies, at 4 cents each; in lots of 500 or 1000 copies at 3 cents each. When more than 100 copies are wanted they will be sent by express, at the expense of the purchaser.

We verily believe that one hundred copies of this pamphlet, judiciously distributed in every honey-producing locality, will forever annihilate the cry of "*glutted market.*" In

its place will spring up the DEMAND—"Give us of your honey; ours is all gone!" And as the demand increases, the prices will increase correspondingly.

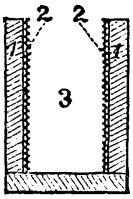
This is no idle dream, but a sober reality! If there be a general and thorough trial—the result is *certain!*—"Creating a demand" is *sure!!*

Presistent effort will accomplish wonders—united action will show results almost miraculous!—ED.]

For the American Bee Journal.

Comb Foundation.

I have made my comb foundations on a plaster of Paris model, made by running plaster into a mold with foundation on each side, thus:



No. 1.—Wooden box, size and shape for the mold of plaster. 12x12, 1½ inches thick, I think the best.

No. 2.—The foundation tacked on the sides of the box, for the plaster to run into and shape.

No. 3.—Plaster of Paris mold in position in the mold.

The foundation can be made at home, from scraps of wax; saving freight and toll. The foundations are 12 to 14 square feet to the pound, and are not all broken up, like those you buy, in transportation. It is a perfect *fac simile* of the copy, on one side of the machine foundation, and a faint copy on the other. It is so thin that you would not know it from natural comb, after the bees have worked it out. The same dip that gets the plain sheet for the machine furnishes this, only be careful to keep the plate well soaked and you can make about 10 lbs. an hour. The only draw-back is, that some bees do not make the cell as regular on one side as on the other.

Buchanan Co., Iowa. J. M. PRICE.

[The samples sent with this letter, we think, are too thick for use in surplus boxes, and though it might do, as suggested, to work up odd pieces of comb, we should much prefer to get the cells alike on both sides. It is an ingenious way of doing it,—the inventive genius is very commendable. —ED.]

For the American Bee Journal.

Transferring Bees.

I will give my plan, which I think an improvement on anything that I have seen in print:

Alarm the bees with a little smoke, reverse the hive under a tree, or near a fence; have a heavy blanket, I think a soldier's blanket best; fasten a ring, 10 or 12 inches in diameter, in the center, fasten a strap across the center to hang it up and to carry it by. It can be hung up to the limb of a tree, or to a pole or rail, with one end put across the fence. Drum a little and raise the blanket on one side. Split or pry off one side of the hive; cut out the comb; transfer to the frame, by using a transfer board, a little larger than the frame; fasten the comb in, by using an awl, if the combs are empty; but if heavy with honey and brood, tack a few strips of thin wood across the frame cornerwise; remove the strips when the bees have fastened the combs. Take hold of the strap of the blanket; carry the bees to the hive, placed where you want it to stand; let the blanket down; raise one side; turn it upside down; the bees will then crawl into the hive.

Let any one having bees to transfer, try this plan, and they will not want to try any other.

I have transferred hundreds of swarms and dispensed with the drum box altogether; the blanket adjusts itself to any size of box or gum. G. W. ZIMMERMAN.

Napoleon, O., March 12, 1878.

For the American Bee Journal.

Humbugs and Swindles.

This is the heading of an article in *Gleanings* for February, in which the editor states that Mitchell and his agents are obtaining money by fraudulent claims; that Mitchell is the ring-leader of swindlers, &c.

What I want to know is: Where the humbug comes in? Those who have followed Mr. Root for years, know that he commenced with the Langstroth hive; then after the "Common-sense Hive" was patented, he used the principal features of it in his "Simplicity." When Mr. Mitchell got his patent on the "Adjustable Hive," he appropriated the cloth-end division boards, and then called Mitchell a humbug. Is this following the "golden rule"—doing to others as he would that they should do to him?

Now let us see if Mr. Mitchell is humbugging the public. He charges $10 for a right to make and use his hive. The materials cost but 50c.; his agents sell them, complete, for $1.25.

If a man has 100 colonies, the account would stand thus: Right, $10. Hives, $125.00. Total, 135.00. Mr. Root sells the Langstroth hive complete for $3.75; the Simplicity, for $5.00. Take the cheapest:—100 at $3.75 would cost $375.00. Now deduct the price Mitchell's cost $135.00. The balance, $240.00 is in favor of Mitchell and against Root.

Is it not better to pay for a right for using a good hive, than to get a non-patented one that costs three times as much? I like to see fair play.

I transferred 100 colonies last season to the Mitchell hive, and have not lost one; my bees are now stronger than when I put

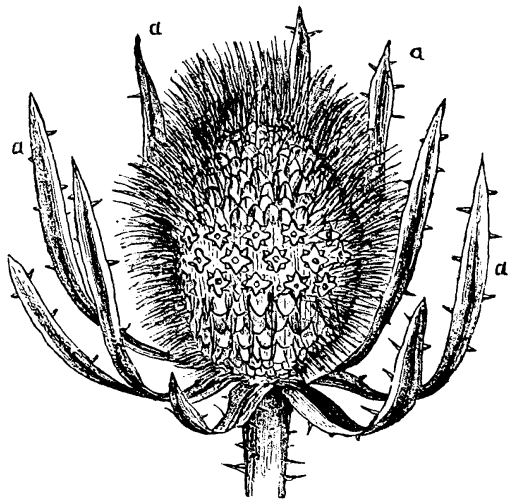
them into winter quarters; they have been breeding all winter. C. EGGLESTON.
Macon City, Mo., Feb. 19, 1878.

For the American Bee Journal.

All about Teasel.

Teasel is sown about May 1st in continuous rows, 3 ft. apart, and thinned down to about 10 inches apart in the row. Alternate rows are planted to corn, or turnips may be sown between the rows. Teasel leaves lay almost flat on the ground; it is therefore difficult to cultivate it. Clay and gravel soil is best for it, when highly cultivated.—Light soils should be avoided, as it is liable to winter-kill.

The following year (May 1st) it should be hoed; each plant will soon throw out a stalk 4 ft. high, and from every joint, or leaf, other stalks will grow, attaining similar height. At the extremity of each stalk, or branch, are buds which are called teasels, varying in size from 1 to 4 inches in length,



[This excellent cut is from Prof. Cook's New Manual of the Apiary, and shows the Teasel bloom.—ED.]

and one-half the length in diameter. One root often produces 20 or more of these buds. The first to bloom are the largest; they are termed 1st, 2nd, and 3rd, according to size.

They bloom about July 5th, and continue about 4 weeks. Each bud (teasel) blossoms profusely, beginning first in the center of the bud, the flower being similar to red clover.

After the bloom ceases, the teasels should be cut. The bloom on the 1st ceases in about 2 weeks; on the 2nd, 5 days after; and so on.

They are dried (or cured) by laying them on a lattice-work floor, in a loose-sided building. A good crop will cut about 300,000 teasels; they are worth 40c per 1000.—(10 lbs. to a 1000).

Its honey-producing qualities are equal to basswood—and when the latter fails us (as it did last season) the teasel yields profusely.

The flavor of teasel honey is excellent; it it transparent and white, correspondents in the Dec. and Jan. Nos. to the contrary, notwithstanding. One of these asserts that teasel produces two kinds of honey. Such an idea is preposterous! If such were a fact, would the two car-loads of *white* teasel honey shipped to Thurber & Co. last fall have been so admired? My whole crop of white honey was gathered from the teasel.

Teasel produces no pollen, but bees will be nearly covered with a white substance, like flour, while working upon it. By this I know that my bees gathered their white honey from teasel.

Teasel is one of the greatest honey-producing plants in existence, and it will pay to cultivate it for that purpose.

Marcellus, N. Y. N. N. BETSINGER.

For the American Bee Journal.

How to become Successful.

In order to become a successful apiarist, three things are absolutely necessary:

1. A location abounding with honey-producing plants, of the different varieties, both early and late. For early—such as willow, elm, soft maple, cherry, plum, apple, currant, gooseberry, raspberry, &c.

For summer—white clover, basswood, mustard, cucumber, squash, poplar, pumpkin, &c.

For fall—buckwheat, golden rod, wild sun-flower, and all the various varieties of flowers that bloom in August and September.—thus keeping one continual flow of the saccharine juices of nature's laboratory, from early spring until the icy hand of winter prepares all nature for her long slumber.

2. A good hive; not such as our fathers used; (the old log gum, nail-keg, round straw cap, &c. &c.) but a hive that permits every comb to be taken out and examined, and all necessary operations performed without killing a single bee, or exciting their anger. It should afford suitable protection against extremes of heat and cold, sudden temperature and the injurious effects of dampness. It should be capable of being adjusted to the wants of either large or small colonies; to allow the combs to be removed without any jarring; and to furnish all needful security against the ravages of the bee moth. The bottom board should be permanently attached to the hive, for convenience in moving it and to prevent the depredation of moths and worms; and it should enable the apiarist, who relies on natural swarming, and wishes to multiply his colonies as fast as possible, to make vigorous stocks of all his small after-swarms. Such swarms contain young queens, and if they can be judiciously strengthened, usually make the best stock hives.

In order to become a successful apiarist, it is necessary that he should understand the internal economy of the bee-hive, to some degree at least, and unless he is in possession of such knowledge, (he may be in possession of the best hive in the world, and be placed in the best locality that the country affords,) he will be almost absolutely certain to make a failure.

I know a man that has 200 colonies of bees, and his average amount of surplus honey per hive will not fall short of 80 lbs. He is the right man in the right place, and

has the right bees in the right hive. With him, it is bees first, and recreation and hunting afterwards. Such a man will succeed in a greater or less degree in any locality where fortune may place him in.

The enemies of bees are: Toads, spiders, woodpeckers, king birds or bee martins, as some call them, the moth miller, and man. But the moth miller is the most destructive, if we except man.

Think of the colonies so arranged in the apiary that the young queens fail to enter the right hive, and thus are lost, while the stock has no means of raising another; thus becoming a sure prey to the moth miller or to be robbed by other bees; and if not robbed, the whole inside of the hive becomes one solid mat of webb and worms; and after all, the whole damage lies at the door of the self-styled bee-keeper; with a little knowledge on his part, nine-tenths of the damage might have been averted.—Look at the increased destruction of bees for the past few years, brought about by the construction of clap-trap hives, by those utterly ignorant of the first principles of a good hive! Some moth nurseries; some smothering pits, during the winter!

Is it, then, any wonder that man should be called the greatest enemy of the bee?

Andalusia, Ill. C. HOTCHKISS.

Our Letter Box.

Millersville, Ill., Feb. 10, 1878.

"I have 50 colonies of Italians, and I have taken from them 4,500 lbs., actual weight, being an average of 90 lbs. to the hive; all sold at an average of 12½ cts. per lb."

J. E. WALCHER.

Abronia, Mich., March 8, 1878.

"Bees have gathered honey and pollen all day. I never knew bees to get honey so early, before, in Michigan. They seem in fine order." T. F. BINGHAM.

Owosso, Mich., Feb. 25, 1878.

"The cause of ¾ths of the deaths of bees in winter, is that their honey is volatile, and gathers water; the bees being compelled to eat so much water with their honey, it physics them, and as it extends them so much, they cannot contain it, and die—often coming out of the hive in the coldest weather to die, rather than to stay in the hive and pollute it. REMEDY.—Throw out all the uncapped honey at the beginning of winter, and let them have honey that is sealed up, to live on. That gathers but little water. Poor honey may be given them in the spring." M. RICHARDSON.

Glenwood, Ill., Feb. 14, 1878.

"I put 102 swarms into the cellar, about Jan. 1; 14 are in box hives, the rest in Quinby frame hives. The box hives are inverted; the frame hives are right side up, on the bottom boards, with the entrance at bottom open. The 3 spaces in the honey boards are open. They are so arranged that dead bees can be swept out. The cellar is 16x24 feet, and is under the kitchen; it has an outside entrance, double doors, with chimney from the bottom. I put in a stove but had no occasion to use it, since the first few days after putting in. I warmed them up well then, to dry the hives.—The weather had been very wet for some time before, but it was cold when I put them in; the boards of the hives were full of frost. They seem to be doing well. The extractor you selected for me, last summer, works well, also smoker." C. L. FROST.

Garland, Pa., Feb. 11, 1878.

"Bees did very little here in the line of surplus honey, the past season; those that were well housed came out in the spring strong and healthy; swarmed early, and did well till the first of July, then wet weather began and they gathered no more clover or raspberry honey. The chestnut and basswood failed to yield honey, although they bore heavy bloom, and the weather was fine. Buckwheat and fall flowers yielded abundantly; in consequence, some hives were crowded in the brood chamber, and went into winter quarters with lighter swarms than we like to winter; but up to date, they appear to be in as fine condition as one could wish. For want of room in the bee house, we are wintering 14 swarms on their summer stands, packed in chaff.—The first we have tried in chaff, since the fall of 1867; that fall, we packed nearly all our bees in chaff. All that were so prepared came out in the spring in good condition.—We built a house the following season, and have wintered in that since then, with the exception of few swarms that have stood out every winter, with the caps filled with straw as their only protection, and have lost very few bees, excepting in the winters of 1874-5; (then we lost one-half; we wintered in). I think the old-bee theory correct, with regard to the mortality among our bees and those of our neighbors, that died the same winter. I took the trouble to examine the hives in 15 different apiaries, where the loss was from one-fourth to all they contained; and, in every case, found little or no pollen and no signs of brood, and came to the conclusion that it was for the want of young bees to supply the place of old ones, that caused them to dwindle down and die out so rapidly."

JNO. F. EGGLESTON.

Charles City, Iowa, Jan. 22, 1878.

"Last summer we had a good crop of honey from basswood and white clover.—The spring was wet and a late frost injured the fruit blossoms, and a drought cut the fall crop short, but our honey was all thick and of good quality. On May 1st, I had 14 colonies. I doubled my number and averaged nearly 50 lbs. per colony, of comb honey, in 2½ lb. sections. I have no extractor; my bees are mostly Italians. My Italians have always done the best. One new swarm filled a large hive, and made 90 lbs. in sections, on top. Another old stock (with a dollar queen, bought of J. H. Nellis, in the fall of 1876,) made 113 lbs. of surplus, in sections, tiered up, on top. I bought 6 more colonies last fall; making 34 now in the cellar, with the caps and top boards all

off and chaff mattresses 4 inches thick over them. The explanation, in *Gleanings*, last summer, of how to make square-edged mattresses, by sewing up only one piece of cloth and tucking in the corners, and stitch before they are turned, is well worth the price of one year's subscription. We have a very warm winter. Some days in December the thermometer stood at 68° out of doors. I put a load of ice in the cellar to keep my bees still. I have made a new smoker that beats them all. I have thrown mine down, and let it lie for 3 hours and picked it up and it was ready for business, without re-lighting." L. SUTLIFF.

Fremont Co., Iowa, Feb. 8., 1878.

"I have just finished reading the JOURNAL, and am highly pleased with it. In the fall of 1876 I went to California and remained there 9 months. California was over-done in the bee business, up to last year, when the drouth played sad havoc with bees.—The Los Angeles and San Gabriel mountains, or the orange and white sage districts produce good honey, while the bay country is so affected with tar weed, that the honey is almost worthless for food. I went into winter quarters in the fall of 1876, with nearly 80 colonies. Went west and remained till July 3, 1877; when I came home, I found over ⅞ of my bees dead, there being hardly a strong colony in the yard. Basswood started all to strengthening up, so by the time heart's-ease bloomed, all were strong again. When basswood bloomed, I had 46 colonies; increased 2, making 48 in all. I extracted 5,500 lbs. of honey, and my bees went into winter quarters strong in bees and stores. I am wintering out of doors, with packings of straw. I have sold nearly all my honey to farmers, at 12½ cts. per lb. The weather has been excellent for wintering out of doors, excepting their having drawn largely on stores, but I think they will be strong in spring." W. MORRIS.

Wenham, Mass., March 11, 1878.

"Bees never wintered as well as during the past winter. All my colonies have come out nice and strong. The weather the past week has been like May. My bees, on the 10th of March, commenced to carry in pollen. I have been a bee-keeper upwards of 20 years, and never knew them to carry it in so early. Some 15 years ago, they commenced on March 16 to carry it in; but, as a general thing, they cannot do much at it earlier than about April 10. You did not understand me correctly about sending queens by mail. I have for the past 6 or 7 years paid letter postage on all packages containing queens, and have had no trouble. I do not ship them as my friend Cameron, of Kansas, suggests. We sent 1 package, containing 5 queens, to Canada, last year.—The postage fell short 3 cts., and it was returned with the words "*not mailable*" marked on it. They were re-packed, full letter postage paid, and they went all right." H. ALLEY.

Napoleon, O., March 14, 1878.

"Bees have wintered well in this section. I wintered without loss. They are strong and well." G. W. ZIMMERMAN.

St. Hilaire, Quebec, March 12, 1878.

"On Dec. 1, I put 60 colonies in the cellar. The thermometer has ranged from 50 to 55° all winter. As the weather has become unusually warm at this time of year, I now throw a few shovels full of snow, every other day, under my hives, to keep them quiet. Not one of them exhibits any signs of uncomfortableness. Spring, in the Province of Quebec, seems to come fully one month earlier than usual." THOS. VALIQUET.

Edgerton, Kansas, March 8, 1878.

"Our bees are in the best condition that they ever were at this season of the year.—They have been gathering pollen for over a week, filling up with brood quite rapidly.—The buds are bursting, grass is starting, and everything indicate a very early spring." A. B. DILLE.

Plymouth, Wis., Feb. 16, 1878.

"Last season was a very fair one with us. Had 2,900 lbs. of honey; 1,940 lbs. of which was comb-honey and 962 lbs. extracted; and such a season for swarming! May I never experience the like again. I used every measure that is known to science to prevent increase, but all to no purpose. It is needless to state that I have lost the conceit which I entertained, of being able to prevent swarming under *all* circumstances. I think the black bees were as much disposed to swarm as the Italians. I am wintering 98 colonies; a few which I fed late in the fall, have dysentery and will probably die before spring. Well, this serves me right; for I neglected to supply the proper conditions, which I knew to be necessary to insure safety. The sample Case and Boxes came safely. Shall adopt them this season; only, I find that I shall have to make the top and bottom 6 inches long. Winter is too warm for this latitude. Thermometer stood at 42° at noon to-day." J. N. MCCOLM.

Chicago, Feb. 23, 1878.

"EDITOR JOURNAL:—In your article headed 'Honey Adulteration,' in the February No. of your JOURNAL, you suggest that the labels on the jars containing the adulterated honey, condemned in Glasgow, Scotland, may have been counterfeited.—Your readers would naturally infer that they were counterfeited or used by some other dealer in, and packer of honey. As C. O. Perrine is, and has been for years the most prominent in this line, I desire to state, as his Manager for a long time, and fully knowing to all honey and other goods packed and shipped in America and abroad, for the past 3 years, that I never saw or knew of a single counterfeit label put upon a jar of honey in this house. In this connection, I will add that we have been shipping honey to Europe for 3 or 4 years, and we have not had a single complaint; but, on the contrary, have received the highest praise for quality of goods, style of packages and safe packing. The only objection to repacked honey was the candying of it, which is the best evidence of its purity, and one party (a late shipment) refused to pay a sight draft, with invoice and bill of lading, as he wanted to see the

honey before paying. After its arrival he desired further time to have it analyzed, which we suppose was done, as some weeks intervened before we finally received our money. We have had orders for car-loads of our re-packed honey; 500 cases at a time, which we could not fill, as we were unable to get the quantity of honey to fill the orders; and this is just what has forced Mr. Perrine to start an apiary, to get such honey as his customers desire, and in large quantities, and to be able to sell it at the lowest prices. If suggestions are in order, *perhaps* one of the parties spoken of in said article did not commence using the $1000 *reward labels* until after the exposure of adulterated re-packed honey."

W. W. HILTON, *Manager.*

Rome, Ga., March 12, 1878.

"Bees have had a fine time nearly all winter. We have had only a few days they could not be seen carrying in pollen, and to-day, many hives have a plenty of brood and drones. The peach and plum trees are in bloom. The weather being warm, it affords the bees a rich harvest. We have Italian swarms at work in boxes, 2 weeks ahead of the natives. I shall look for swarms by the 25th of this month."

A. F. MOON.

Lake Mills, Wis., March 8, 1878.

"Bees all out-doors; kept them in cellar first part of winter; then moved them out on summer stands and packed buckwheat straw around them; all are doing finely—flying and carrying in pollen. Bees out-doors are doing the best this winter."

O. L. RAY.

Berkshire, N. Y., Jan. 10, 1878.

"I have 49 colonies to commence operations with. I wish to get 1 good early swarm from each parent stock, and then stop all after-swarming, and get *every pound* of honey they will produce without robbing them or losing any swarms. How shall I do it?

W. C. LEONARD.

Bloomfield, Iowa, March 11th, 1878.

"Bees wintered well on summer stands here. I had 32 stands last fall and got them all through without the loss of one. They carried in the first pollen on the 6th, inst."

D. M. DEUPREE.

Kalamazoo, Mich., March 15, 1878.

"Bees doing finely; have lost but 1 colony, out of 137, so far; they carried in pollen lively on the 8th, 9th, and 10th; the earliest ever known in this section."

W. B. SOUTHARD.

San Luis Bay, Cal., March 12, 1878.

"Honey prospects fair, for this year.—The season is 5 or 6 weeks late. Have had over 16 inches of rain, but no floods in the *Bee-end* of the state. Crops of all kinds promise to be abundant. Chalmers Scott is my nearest neighbor on the west. He does not keep bees—never did; don't know anything about them, and is no authority for anything in the bee business. Swarming does not begin, generally, before April 15."

G. F. MERRIAM.

Easton, Pa., March 20, 1878.

"The JOURNALS came in due time. To say that I am pleased with their general 'get up.' will hardly express my appreciation of them. I see a decided improvement in them within a year, though I then thought it all that could be desired of a bee journal. If you keep on improving as you have done, the JOURNAL must become the *ne plus ultra* of bee literature, the world over."

O. W. SPEAR.

Monmouth, Ill., Feb. 18, 1878.

"J. H. Eldridge, Earlham Road, Norwich, England, in exchange for some seeds of the figwort (*scrophularia nodosa*) sends me some 'furze' seed (*ulex europœus*), and describes it as follows: 'Furze is a perennial, almost leafless, dark green, spring bush, living very many years. (It was this plant which so astonished and delighted Linneus, when in England, by the beauty of a mass of its flowers. Many acres of our un-inclosed land are covered with it). In early June the bush is covered with bright yellow blossoms, and with, perhaps, the exception of August, there is not a month in the year when some blossoms may not be found on a full-grown bush. The bush grows 3 ft. high and round. It flourishes in almost any soil, except chalk. It will form a hedge, and, in England, grows in the most sandy soil and exposed places.' If any of your readers feel disposed to send me a stamp, I will send them 20 or 25 seeds. I have been thinking that it might prove both useful and ornamental to form division fences between lots, also to form a screen. Friend Eldridge says it is doubtful as to its being a great honey plant, but it affords an abundance of pollen. I would advise soaking the seed in water before planting. Sow in rows or a bed, and transplant the plants. It is a native of Europe. So is *scrophularia*. The latter is anodyne, diuretic, tonic, dissentient, an anthelmiretic, and useful in scrofula."

T. G. MCGAW.

Hubbard, O., March 22, 1878.

"My bees have wintered well, excepting 2 colonies. One of them starved, and one queenless. I had 8 colonies in the cellar, and the others well packed on their summer stands. I now have 30. Last season, I sold $125 worth of honey, gave some to my three sons and their families, and used some at home. I had only 12 colonies that made my surplus."

J. WINFIELD.

Hamilton, Ont., March 14, 1878.

"FRIEND NEWMAN:—I suppose as I have not heard who sent from Canada the most subscribers for THE JOURNAL for last year, up to Aug. 15, it must have been myself; (I would like to know,) and if it was, I will exclude myself this year, and now renew the offer, viz: I will give a tested Queen to any one sending the most subscribers for the AMERICAN BEE JOURNAL from Canada before August 15, 1878; if they do not want my queens, I will give them an order on any good breeder in the United States."

W. G. WALTON.

[Friend Walton was entitled to the queen last season. Thanks for new offer.—ED.]

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Contents of this Number.

EDITOR'S TABLE:
- Editorial Items....137-145
- Imported Cyprians....136
- Floating Apiary....138
- New Arrivals at Our Museum....139
- National Convention for 1878....142
- Sending Queens by mail—Progress....143

MARKETING HONEY:
- The Honey Market....143
- Golden Rod Honey....144
- California Honey....144
- Shipping and Marketing Honey....145
- Boston Honey Market....145

OUR LETTER BOX:
- Sundry Letters....145-152

SOUTHERN NOTES:
- W. J. Andrews' withdrawal....152
- Honey Dew....152
- Moon-beams from Georgia....153
- Swarming and Surplus Queens....154
- Questions and Answers....154

CORRESPONDENCE:
- Chips from Sweet Home....155
- Experience of a Beginner....155
- How to use Prize Boxes....156
- Texas as a Bee Country....157
- The Hive I like best....157
- Wintering, Robbing, &c....158
- Detroit Honey Dealers....158
- Average Results....159
- Hives—Boxes—Wintering....159
- Bees and Honey in Scott Co., Iowa....159
- Spring Dwindling, Hives, &c....160
- Bee Keeping in Minnesota....161
- Dadant vs. Himself—Answer....162
- Bee Items....163
- On Novice....164
- Kansas Bee Pasturage....164

CONVENTIONS:
- Parasites of the Honey Bee....165
- How to prevent Swarming....166
- Northwestern Ohio Convention....167
- Bremer County, Iowa Convention....167
- Michigan State Convention....168
- Burying Bees in Winter....168
- How to Increase Colonies....168
- Advantages of Comb Foundation....169
- The Extractor....169
- Shall we procure Italians....169
- Boxes or Sections....169
- Home Comsumption of Honey....170
- Which Hive and Frame?....170
- Western Illinois Convention....171

BUSINESS DEPARTMENT:
- Honey as Food and Medicine....173
- Kentucky Blue Grass Association....173
- Honey Markets....172
- Binghams' Smoker Corner....173
- Chinese Mustard Seed....172
- Catnip Seed....173

☞ R. R. Murphy reports three swarms on April 23d. Early work for Northern Illinois.

Editor's Table.

☞ It is pleasing to note that the demand for honey is increasing in several new channels. It is being used largely by brewers in making ale, and by tobacconists in preparing tobacco for the market. Its use for medicinal, culinary and other purposes is also increasing.

☞ In answer to an inquiry, let us say that Cleome, or Rocky Mountain Bee Plant, will grow on any soil, and may be sowed at any time—May being the best time to sow it. It grows 6 to 7 feet high, and blooms from July till frost.

☞ A sample of sugar made from honey is on our desk. As "the result of a first crude effort," it is a success, and shows conclusively that sugar can be made from honey and still preserve its pure and healthgiving properties. We shall await the result of future experiments with much interest.

☞ S. S. Weatherby, Balwin City, Kansas, has sent us a few of the blossoms of the Peach. There are from 20 to 30 petals to each blossom. Friend W. remarks:—"The tree in my yard, from which they were plucked, resembles a snow ball, so thick and white are the blossoms." What a rich treat for the bees!

☞ R. Mayerhœffer, Esq., editor of the *Bienenvater*, Neustadt, Brit Gasse 744, Prague, Austria, desires us to say that he would like to exchange seeds of honey-producing plants for American, or he will sell seeds of European plants, 20 species for 70c. Payment may be made in currency or postage stamps. Here is a good opportunity for a friendly exchange.

Floating Apiary.

Mr. C. O. Perrine has started up the Mississippi River with his Floating Apiary. It contains 1000 colonies, and he intends following the honey bloom up the River, from lower Louisiana to St. Paul, a distance of 2,000 miles, which he expects to reach by the end of July. This he will do by "easy stages," remaining but a day or two at a landing, and move up each time to another landing and a fresh field. He thinks the bees of from 1,000 to 2,000 colonies will take the cream from the country around the landing from 1 to 2 miles distant, in 1 or 2 days. Returning, he will halt about two months somewhere above St. Louis, and will reach Louisiana with his bees in October. It will be his object to take the autumnal flowers at each point in their prime, precisely as he takes the spring flowers in his advance up the river. He expects his early swarms on his boats to increase his colonies to 2,000 in April and May. The following is a description of the whole outfit:

The hives stand in four walls, five hives one above the other, nearly the whole length of the boat, about 250 hives in each line.

The walls of colonies on the right side and left side have openings for the bees to come out on the water-front; a space of two feet between the hives and the guards answers for a gallery for the bee-man to walk on in front of the hives.

In the middle of the boat there are two other walls of colonies, 250 hives in each, facing an inner court six feet in width. The bees from these colonies reach the open air through the sky-light opening in the roof above the court.

Between the first and second rows of hives from the outside there is an aisle three feet in width, for the convenience of handling the hives and the honey.

The distance from the barge deck to the roof over the colonies is fifteen feet. The space below the deck is ten feet in width and about seven feet high, and is to be used for sleeping apartments, making and repairing hives, handling and extracting honey, and putting it in marketable shape. The dining-room and cooking will be on the steamer that tows the bee fleet.

To run the steamer and manage the barges and bees fifteen to twenty hands will be needed. The cost of the whole establishment, barges, bees, steamer, and the complete outfit, will not be much short of fifteen thousand dollars.

☞ We expect an importation of Imported Italian Queens about the middle of May. Those desiring any from that shipment should send at once for them.

☞ By about the 15th of May we expect to be able to fill the many orders we now have waiting for Prof. Cook's new Manual of The Apiary. It has greatly overrun the intended dimensions of the work—making about 50 extra pages. It gives very full and explicit descriptions of the honey-producing Plants, Trees and Shrubs, as well as interesting details concerning the "Care and management of the Apiary," and the Natural History of the Honey Bee. A specimen page will be found in this issue, containing an engraving of the Tulip tree bloom. The illustrations throughout are magnificent, and the work is the best, as well as the cheapest that has ever yet been published on the Apiary. In consequence of the addition of one-fifth to the number of pages in the work, the price will be increased to $1.00 for it, when bound in paper covers, and $1.25 when bound in cloth with gilded back.

☞ The Santa Barbara *Press* has revived the old story of a wonderful cave of honey, in the following language, which is now going the rounds of the Press. It appeared in a late *Prairie Farmer*, without comment, headed "A Monster Bee Hive." Here is the item:

"In the second canyon west of the Mission creek is a huge rock almost perpendicular and standing about 150 feet high. The face is marked with three or four deep crevices, two of which stop at about 100 feet from the base. In these crevices bees have swarmed for years and have their nests. This monster hive was discovered some 19 years ago by some Mexicans and has never been disturbed. It is calculated that the rock must contain several tons of honey, but it is almost impossible to get at it."

What a pity that so many tons of honey should be "un-come-at-able"! It is a very fine story, but one entirely without foundation.

IMPORTED CYPRIANS.—We learn that C. W. & H. K. Blood have sent a messenger to the Island of Cyprus, who understands shipping bees, for the purpose of properly packing and provisioning an importation of small colonies, which they expect to receive at an early day. In order to cover expenses, we are informed that they will have to charge $30 each for them.

New Arrivals at Our Museum.

LANGSTROTH HIVES.

G. W. Zimmerman, of Napoleon, Ohio, has sent us a lithographic view of his apiary, which now adorns our walls, as requested. He also sent us one of his hives. It is a Langstroth hive, with a few modifications—and, of course, it is a good one.—Nearly every apiarist is adopting the Langstroth hive now—sometimes varying the dimensions, or some other unimportant feature. Friend Zimmerman gives us this description:

"I have made and used these hives since 1868. What I claim as my improvements, are the frame, 10x14 inches; the hard strip of wood, upon which the frames hang, and the ventilator in the rear end of the hive, which slides on dowell pins. The lower story takes 10 frames; the upper, 11 frames, or sectional boxes. These I claim to be my improvements, unless it can be shown that they were used prior to the above date.—(The sectional frame or boxes were 4½x5 inches). I have tried many movable frame hives, during the 24 years that I have used these, but find that this one gives me better satisfaction than any other. I have had over 2500 of these hives manufactured here; there are now over 3000 hives here, containing these frames."

It is questionable whether friend Z's modifications *are* improvements. We certainly prefer the standard Langstroth hive, without them. Of course, other good apiarists may not—among them friend Z. We add it to our Museum with pleasure.

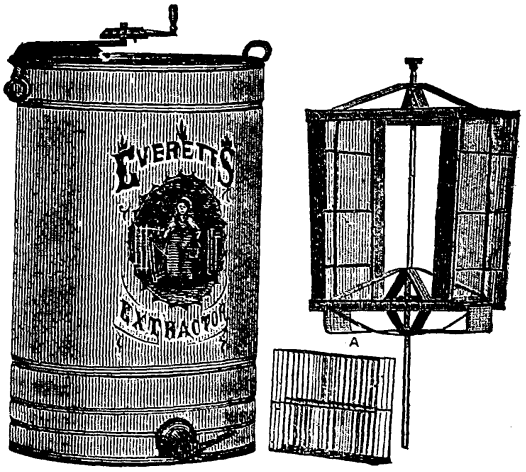
R. R. Murphy has also sent us a Langstroth hive with his modifications, a 6 lb. honey box, and case to hold Prize Boxes for it, with tin separators. It is a regular two-story L. hive—only it has two-inch ends for the brood chamber. This adds a trifle to the cost, and it is questionable whether it is of sufficient value to pay for it. The 6 lb. box is one of the "long, long ago" kind—good, but out of date now. The case and Prize Boxes are to be used on a honey board—as nearly all now dispense with the honey board, cases to be hung by a projecting top bar will be generally preferred.

THE MODEST HIVE.

J. Oatman & Sons have sent us the Modest hive. It contains 11 frames, (top bars not beveled), size, 11x12 outside; two cases, each containing 4 Prize Boxes; and a Comb Honey rack, holding 21 Prize Boxes, with tin Separators. The cap is made of ⅝ stuff, and is roof-shaped. Being *modest*, we prefer the Langstroth, though the former is a good and simple hive.

THE EVERETT HONEY EXTRACTOR.

This is a Novice Extractor improved, and has been endorsed by the Michigan and Ohio State Conventions—the only places where it has been exhibited. It gives valuable room, like the Muth Extractor, for considerable honey below the comb basket,



and has an attachment for holding pieces of broken comb while extracting the honey, which hangs near the top of the comb basket, avoiding the disagreeable necessity of reaching down to the bottom to put in or remove them. It will take frames 12x20 inches or smaller. It is advertised in this issue, and may be had at this office.

THE THOMSON HONEY EXTRACTOR.

This consists of material (iron and wood) all fitted, to be put into a barrel, to extract the honey, and is all that the small price, $2.50, would lead one to expect. It is a bent rod, with handle and iron fittings, and the material for a comb holder. Any mechanic can easily put it together and fix it into a barrel. It is the *cheapest* thing in the extractor line, and leaves no excuse of any one not having an extractor, even if he has but one colony. It can be made for any frame—the size of the barrel being the only restraint. For sale at this office.

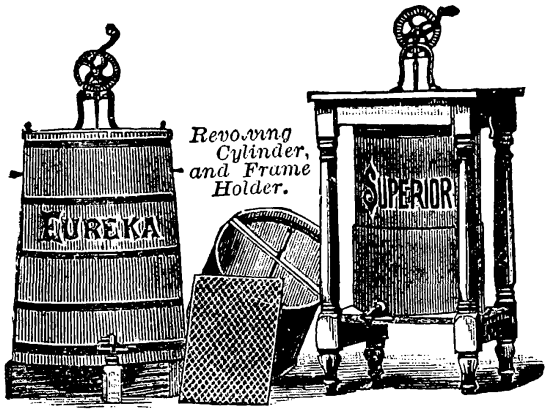
OLDT'S HIVING APPARATUS.

Another improvement and another model has arrived. This is intended to be used where queens' wings are not clipped. It has to be very nearly balanced when the hive is on, and after a few bees have swarmed out, it tips to the front, and the entrance is closed. The only available space for the bees is an enclosure covered with wire cloth. Into this they rush, and as they cannot get away, after becoming composed, it is intended that they shall

enter the empty hive from the wire cage and go to work. Another feature is that it may be so arranged as to give alarm when the bees swarm by ringing a bell attached to the apparatus when it tips forward.

WHITE'S NEW HONEY EXTRACTOR.

Here are two new machines—the latest being the "Eureka." The revolving cylinder and comb holder, as seen between the two cuts, revolve within a well-made, hard wood tank. In the "Superior," the upper cylinder revolves, leaving the lower one stationary. Both have faucets and a capacity for



holding 150 lbs. of honey below the revolving cylinder; this runs through a strainer into it, and is, therefore, free from dead bees, dirt, &c., and is ready to bottle direct from the faucet. Both have tight covers, protecting from flies, bees, &c. They will take any frame not larger than 12x18 inches, and are very durable. For sale at this office.

THOMSON'S INTER-CHANGEABLE HIVE.

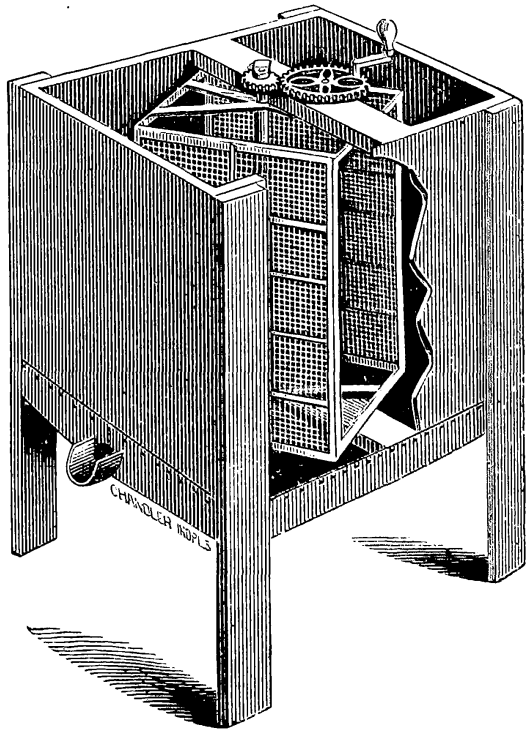
Wm. Thomson, Detroit, Mich, has sent us this hive, which he claims "is the best and cheapest two-story hive ever invented." It consists of 4 pieces of pine, 13½ inches wide, and each cut to about 15 inches long, rabbeted inside on top, to receive top bars 1½ inches, and rabbeted outside 1 inch at bottom. The upper story fitting closely into the rabbet of the lower, but leaving room for the top bars of the frames. The frames are 13 inches square and fit either way of the hive, that being square also.

This hive, friend Thomson thinks, "merits the $25 offered by Novice, in *Gleanings* for February." Novice differs with Mr. Thomson in his opinion, and as he guarded his offer by adding that the desired device must be one that he will adopt, he alone is the judge of "the fitness of things"—and that ends it. "And now comes" Novice, with "malice a forethought," and publishes Mr. Thomson as "a humbug and swindler." Though, if we were called upon to judge in the matter, we should not see our way clear to award the $25 to the "Inter-changeable" hive; still, we deem Novice's action extremely reprehensible. The hive is very simple, and, in a measure, answers the requirements Novice stated. Mr. T. thought the hive merited Novice's offered premium, and so stated—is he, therefore, a swindler? In the name of reason, tell us why?

Novice also condemns the AMERICAN BEE JOURNAL for publishing Mr. T's. advertisement of this hive—again exhibiting his jealousy and quarrelsomeness. Truly, Satan was editor-in-chief of *Gleanings* for May.

M'DOUGALL'S HONEY EXTRACTOR.

This extractor is gotten up with special reference to cheapness, and is intended for those who cannot afford one higher in price. It will take frames of any size, and



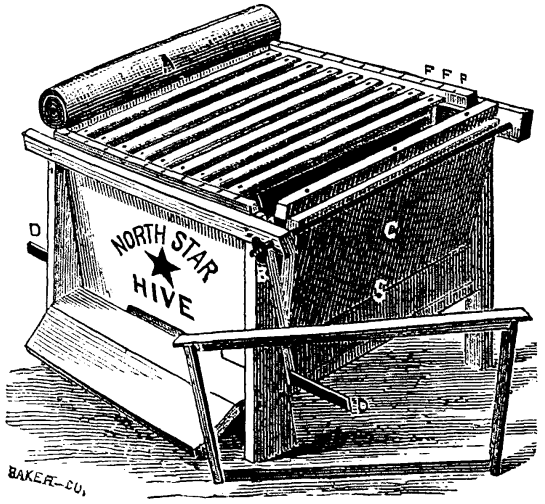
as the inside parts are strongly made, it will answer the purpose as well as any. It has no cover or faucet, and the frame, though strongly made, is plain—the finish being where the expense has been saved.—It is a good machine for such a low price.—The revolving can may be easily removed and the whole readily cleaned. It takes any frame 13x18 or smaller. For sale at this office.

TRANSPORTATION CAN.

This is manufactured by J. H. Coleman, of New York, and is an excellent idea for a square can, holding from 1 to 10 gallons of extracted honey, enclosed in a box, so constructed that by lifting the cover the can may be placed in an elevated swinging position, and operated for pouring off the honey from the top so easily that a child could manage it.

THE NORTH STAR HIVE.

Sperry & Chandler have in this something of value. It is also a modification of the Langstroth hive, having many points of excellence. Its arrangement for the production of comb honey is, we think, unexcelled. Its peculiarities are a manipulating side (C) opening at the top about 2 inches; rod (B) with thumb-screw to hold the sides together; shape and size of frame, 10x16⅛ inches, tapering 2 inches; tipping front; easy means of controlling the entrance (D); the quilt to cover frames attached to the side, and its comb honey rack. We have some of them in use and like them exceedingly.



THE DUNHAM BEE FEEDER.

This Feeder is made of tin, the length of a Langstroth frame, 5 inches deep and 1⅜ inches in width. It is perforated at the bottom to let the food down, atmospheric pressure preventing its escape faster than it is taken by the bees. It hangs by projecting ends, like the top bar of a frame, and holds several pounds of the food, or it will work just as well when it contains a single pound. For feeding *inside* the hive, it is a good arrangement—though the idea of a feeder the size of a frame is old—still, Mrs. Dunham is entitled to credit for bringing it out with the present combination of parts. It can be made to fit any hive. The feeder may be removed as soon as the necessity for feeding is past, so that none is wasted, and as it is air tight, the food does not sour. It can be introduced as easily as a frame of capped honey, which has heretofore been considered the best method of spring feeding, thus avoiding the necessity of keeping such frames full of honey for that purpose. The food may be placed into the hive warm if desired. By request, we shall keep them on sale at our office. They can be sold for 75 cents each. Though feeders will not be used much this season, the time may come when they will be more urgently demanded.

HOGE'S NEW HONEY CARRIER.

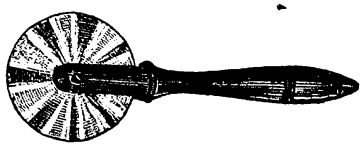
This is now made with spiral springs instead of rubber balls, and in it honey can be transported safely any distance.

BEE BRUSH.

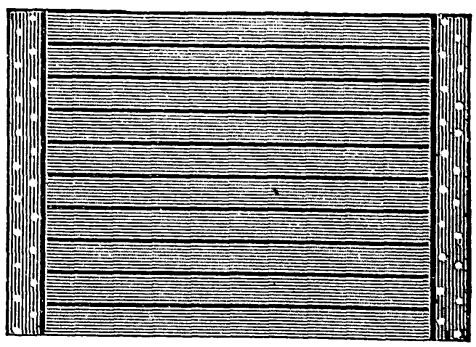
Geo. B. Wallace has sent us from San Bernardino, California, a brush made of the outside coating of soap plant, for brushing off the bees from the comb. He says: "by dipping it in water occasionally it will remove young Italians with despatch." It is placed on our museum shelves.

CARLIN'S FOUNDATION CUTTER.

This is an admirable little tool for cutting comb foundation. The wheel is made of



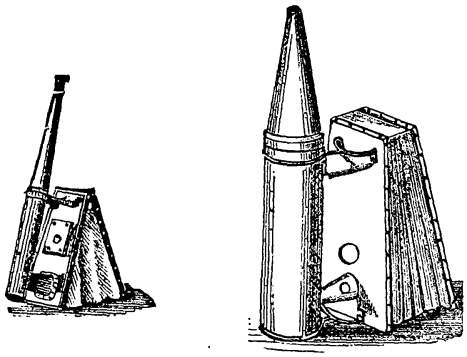
tin, sharpened. It is made by Novice, who has also constructed a frame for guaging the width of starters, to be cut evenly by it to any desired width. It is made of strips of wood of the desired width for starters,



these being nailed together at the ends by a strip, and left sufficiently wide apart to let the Cutter work between them. These are both very desirable devices.

THE NEW QUINBY SMOKER.

Friend L. C. Root has forwarded us his new Smoker. Cuts of the old and the new, side by side, will show the radical changes



THE OLD. THE NEW.

that have been made. The bellows is shorter and wider, and has but 1¾ inches play—the old one having double that amount, making it difficult to operate. The tube is 2 inches in diameter, and is fastened to the bellows at both ends by cast iron holders. It is strong and durable—a vast improvement, in every way, over the old Quinby Smoker.

☞ One of the questions discussed at the Congress of French Workmen, recently held at Lyons, related to the means of widening the field of female labor. Among the avocations for which women are particularly adapted, bee culture was favorably spoken of.

☞ Novice is bilious, ill-natured, fretful and peevish—he sees everything through jealous eyes; and, sure enough, the world is wrong side up! In consequence, Satan has full possession of his sanctum—"type writer" and all! That "new light," which so lately illumined the place, has been extinguished by the arch-fiend, and in the "darkness and gloom," Novice is *furious!* Under dire hallucinations, and with a suddenness that is surprising, the *two* controlling the sanctum have declared war upon the AMERICAN BEE JOURNAL, and simultaneously have commenced hostilities!

The AMERICAN BEE JOURNAL, with "charity for all and malice towards none," extends its sympathy to the poor "fallen brother," and offers its strong hand to again lift him out of the grasp of Diabolus,—out of the mire, and gloom and darkness—into that "new light," which strengthens and cheers those under its influence!

The AMERICAN BEE JOURNAL takes up the "text prayer" of *Gleanings* for February—and asks the Father to "create" in him a "clean heart," and "renew a right spirit within" him—enabling him to say to the other occupant of his sanctum—"Get thee behind me, Satan!"

The National Convention for 1878.

The proceedings of the next National Convention will be made interesting by many important articles, among which will be the following:

Who will be our future honey producers?—By James Heddon.
Honey Plants of America.—By Prof. A. J. Cook.
Details of the Apiary.—By L. C. Root.
Honey as an Article of Food.—By T. G. Newman.
Rise and Progress of Bee Culture.—By A. J. King.
Should Inventors be Encouraged by Bee-keepers?—By C. R. Isham.
The Commercial Importance of Beeswax.—By Theo. Leonard.
Artificial Comb Foundation.—By N. N. Betsinger.
Fertilization in Confinement.—By Prof. Jared Hasbrouck.
Particulars Concerning Our Honey Markets.—By C. F. Muth.

Also interesting articles upon statistical information, regarding the production of Honey, by:

Prescott H. Woodford, of Hartford, Ct.
Wm. W. Cary, of Mass.
Geo. W. Rosenberger, of Va.
Rev. M. Mahin, of Ind.
Dr. J. P. H. Brown, of Ga.
J. M. Shuck, of Iowa.
Herbert A. Burch, of Mich.

In fact, the most elaborate arrangements have been undertaken to secure reliable statistics for publication.

Besides this, many interesting tests will be made in various apiaries this season, and reported at the meeting.

☞ Friend H. W. Conklin has sent us a small part of a frame, showing how he fastens in the comb foundation. A place for the foundation is sawed, as represented by the parallel lines, thus: ||/, the acute mark representing another saw cut by its side, and small brads are driven into the latter saw cut, and through the foundation—thus holding it, not only by the nails, but also by the pressure of the wood between the nails and it. It is simple, and very readily done by those having a circular saw; and about holding it in strongly, there can be no question.

Sending Queens by Mail—Progress.

Early in January we got up a Petition to Congress, and sent it to prominent bee-keepers in the different States, for the purpose of procuring signatures. By the first of March, having several thousands of names attached to the Petition, we sent copies to the Congressmen of several districts, requesting them to present the Petitions to Congress, and use their influence to secure the passage of a Law granting the prayer of the Petitioners. The following is a copy of the Petition :

To the Senate and house of Representatives of the United States of America in Congress assembled:

THE UNDERSIGNED, citizens of the U. S., and residing in the State of..... would respectfully petition your Honorable Body to amend the Postal Laws, wherein they prohibit the transmission through the mails of "live animals" thereby forbidding the sending of Bees by mail, greatly to the inconvenience of your petitioners. Your petitioners hereby submit the following reasons for such amendment.

1. It is essential to the well-being and prosperity of colonies of Bees, that apiarists often exchange Queens, in order to prevent "in and in breeding," and obviate the consequent deterioration of stock, as well as to infuse new life into the apiary. Heretofore your petitioners have accomplished this by enclosing a Queen with a few Bees as "attendants upon her Royal Majesty" in a small wooden box, with one side covered with wire cloth strongly tacked to the box, and sending this neat and safe package by mail to brother apiarists in different States or Teritorries, as the occasion or fancy may require, without the least detriment to the mail bags, or inconvenience or injury to the person or any one connected with the mail service.

2. This reciprocal exchange of Queen Bees was inadvertantly interfered with by the passage of a late Act of Congress, forbidding the transmission of "live *animals*" through the mails. It is reasonable to infer that at that time no one thought that this Law would at all interfere with the transmission of these useful "*insects*" through the mails, when so harmlessly encased. Indeed, such transmission was *not* interfered with for a considerable time after the passage of the Law in question; and until a recent *Ruling* of the Postmaster General, the law prohibiting live *animals* from being sent in the mails was held as not applying to *insects*, and the mails were freely used by Bee-Keepers for sending Bees from one apiary to another.

3. The Bee-Keeping interests of the United States are large and they are yearly increasing and the recent *Ruling* of the Post Office Department is a great detriment to your petitioners and encroaches upon their rights and privileges as citizens of this great Republic.

Your petitioners therefore pray for a modification of the Postal Laws of the United States, so as to allow of the transmission through the mails of living Bees, when thus properly encased and protected.

And your petitioners will ever pray, &c.

The following letter from Hon. Geo. B. Loring, one of the members of Congress, to whom we sent the petitions, shows that we have accomplished something:

HOUSE OF REPRESENTATIVES,
Washington, D. C., April 21, 1878.

MY DEAR SIR :—I have held a consultation with the P. O. Department, and find that in their view, House Bill, No. 3850, as now reported, is sufficiently liberal in its provisions to admit of discretion on the part of the P. M. General, in reference to the carriage in the mails, *when properly put up*, of matter now excluded. This will afford the relief you desire, I doubt not.

Truly yours, &c. GEO. B. LORING.

We hope our next issue will bear the news that the bill has been passed and that the P. M. General will revoke his order, and allow the free use of the mails for sending bees, as heretofore.

At all events it is pleasant to be able to report *progress.*

Marketing Honey.

This department will be devoted to items of interest concerning Packing, Selling and Shipping Honey and Beeswax.

The Honey Market.

This has been one of the most remarkable years the commercial world has ever experienced. Men, whose business sagacity has earned for them fortunes, and reputations for sound, penetrating judgement, have failed in their calculations for the past 10 months. We know of a merchant who purchased honey at a price he considered an extraordinary bargain, and basing his calculations upon the ruling prices of former years and the demands of his own trade, he was justified in his deductions.—But the general deterioration of all values shrank honey also, and his speculation turned out to be but another illustration of the truthfulness of what Robbie Burns tells us : "The best laid schemes o' mice and men gang aft a-gley."

Very little honey now remains on the New York Market. We are informed that the Thurbers have unloaded their large stock, having less than 100 cases left, which, considering their extensive trade, is simply less than a two week's supply!—Prices on "gilt edged," white honey, like

that of Doolittle's and Ellwood's A brand, were maintained at 25 cents throughout the entire season. As well as one or two other producers, their cups of honey were sent to market in the neatest possible form, and they were well paid for the trouble! Not only did they have a care for neatness, but while packing the honey into crates, they avoided with scrupulous care anything that looked like deception; or, in other words, the "veneering" game, that so many practiced to their cost. In showing honey to grocers who buy single crates, they now, almost invariably, have the crate opened and examine every box, and if any are found off color, or in any way irregular in style or quality, the entire crate is rejected and has to be sold at a reduced price. It will be a great deal better for producers to cull the honey and grade it as it should be. We know how prone human nature is to ut the best foot forward, but it will not dop in cases of this kind.

Extracted honey, we are pleased to note, is just now attracting considerable attention, from the new interest invested in it by the recent satisfactory efforts of certain gentlemen to convert it into sugar, suitable for domestic and manufacturing purposes. We are free to hazard the opinion that if the production of extracted honey can be so much facilitated and cheapened as to make its cost approximate that of raw sugar, it will then be but a question of time, when refineries will spring up all over the country, for its conversion into sugar; until then, producers must content themselves with a fitful and uncertain market. An important question is about to arise, and that is, "Can honey be profitably produced, so as to compete with raw sugar?" If this be determined in the affirmative, then all fears of an "over production" will be forever dispelled.

Let us have a full and exhaustive discussion of the matter. It will have to be disposed of sometime; and we might as well face the music now.

GOLDEN ROD HONEY.—It will be interesting to friend Palmer and others, who produce this kind of honey, to know that one European establishment, after receiving a sample shipment of Golden Rod Honey, sent an order to New York for that kind of honey; at the same time intimating that the trade in it was likely to be large.

THE FEAST OF THE PASSOVER.—This is the season our Jewish citizens celebrate the Feast of the Passover, one of their important religious ceremonies, on which occasion it is their custom to eat honey. They are very particular regarding its purity, and indifferent as to price. They are instructed by their Rabbies to buy only candied honey, as it is more likely to be pure than it is when liquid. The grocerymen buy it in barrels, and sell it out to peddlers, who in turn, pack it in new, clean, and bright packages. One singular thing about this trade is that they will accept only such honey as candies with a "grainy" appearance, rejecting as impure, and as they say, "mixed with flour," all other kinds. The magnitude of this line of consumption is not appreciated by most dealers. We have known a firm, this year, to clean the market of this particular kind of honey, accumulating upwards of 200 barrels and firkins, and unload the whole of it in a single week in April.

CALIFORNIA HONEY.—Commission men and producers in California have, we understand, perfected arrangements for consignments of large lots of honey to Chicago, St. Louis, Philadelphia, Pittsburgh, Cincinnatti and Boston. They are afraid to try the New York market, we understand, because they fear the competition with Eastern honey will be so great. They consider New York the point to which the most of the honey produced in the East will be shipped. The Californians have taken a "new departure" in the way of surplus boxes. We saw some very neat Prize Boxes and Crates from there, last winter. Our Eastern friends will certainly have to look to their laurels. Comb honey must be put upon the market in attractive one-comb boxes, to find ready sale.

Every one who has traveled in Switzerland will recollect how plenty honey is throughout that country. At the hotels it is supplied *ad libitum* without extra charge as a part of the "plain breakfast" of rolls and coffee. In most parts of this country, on the other hand, it has been a comparatively costly luxury; but now there is reason to hope that it will soon be as abundant as in Switzerland. With the modern appliances discovered to direct these busy workers for man's benefit, bee-keeping is destined to develop a source of untold wealth to the country.—*Exch.*

SHIPPING AND MARKETING HONEY.—Packages should have gross and net weight *neatly* marked upon the cover or head.—The address of the firm to which the honey is shipped should be so marked on the cover or head, as to generally take up as little room as possible. Commission houses will generally forward a stencil-plate for this purpose, when requested to do so.—The initials of the party shipping, or his shipping mark, should be on the package as well. Of course, where large lots are shipped, simpler marks can be used, by an arrangement between the parties. Neatness in marking is *very* important. The shipper should strive to have his honey strike the eye of the buyer favorably at first sight. Receipts should always be taken from the express or transportation companies, and full advices, with a correct invoice of the shipment, should, without delay, be forwarded by mail. When forwarded by express, it is best to put a letter of advice in one of the packages, and mark plainly "bill," advising by mail. There is nothing so vexatious or intolerable to a commission house as the receipt of consignments not properly or distinctly marked and advised. Every producer who designs to make a market for his honey and obtain good prices, should have a brand or mark of his own. By doing so, he may establish a reputation for his goods which will be valuable to him; buyers will look for his particular brand.

THE BOSTON HONEY MARKET.—There is quite a large stock of white clover and basswood honey remaining on hand unsold there. Dealers paid a high price for it, early in the season, last fall, and are not disposed to sell at a loss now; therefore, they expect to hold it over until next season. They do not seem to push it with the vigor they should, either. A friend of ours called upon a commission merchant, the other day, who, he knew, ought to have some nice honey; and, after looking around and failing to discover the article anywhere in sight, asked whether he had any honey for sale. He replied, "Yes, we have a lot up in the loft, it is a good deal of trouble to get it down, but if you want to buy, we will show it to you." He assured him that if he was not too much attached to it, and the price and quality suited, he would buy, and finally did negotiate the sale. The Geer brothers complain of slow sales, and say that they expect to draw off all their wagons the 1st of May. Cuba honey is offered and sold there at 80c. per gallon; it weighs about 11 lbs. to the gallon; even at this low price, the only buyers are New Yorkers.

☞ J. H. Martin, of Hartford, N. Y., has sent us some of the little boxes in which he has been putting up his candied honey, as spoken of on page 107 of the April number. His boxes are round, and look like large pill boxes, and hold 2 oz., ¼ lb. and ½ lb. each respectively. They are neat and nice, and as they take well with the children—why is this not a good scheme? It comes very near to the "penny package" idea—and it is healthy for the children and profitable for the producer.

Our Letter Box.

Winterset, Iowa, April 15, 1878.

"In the winter of 1876-7 I had 10 colonies in the cellar and left 44 out without protection, and in June following I had only 3 left. I increased and purchased to 32; sold 22 of them and expect to increase to 50 this season, besides getting about 500 lbs. of honey." M. BAILEY.

St. Clair Co., Ill., April 13, 1878.

"I would like to ask C. Eggleston if the season had not more to do with his success than the kind of hive he uses? My bees brought flour from a mill (60 rods distant,) before Christmas, and kept at it till others brought in natural pollen. I had brood hatching on Feb. 1. I have 23 colonies in Adair hives. Novice has not changed as much as Mitchell. The latter's changes have been many. In 1870 he had the Buckeye, with hinged frames opening like a book; in 1872 he had the 'Rough and Ready' hive, lined with paper, frames 11x12, tight-fitting at sides. With this he was going to 'beat the world.' Now he has the adjustable hive, with frames 12½x10⅝ deep. This makes 3 different hives in 8 years. In transferring, it makes no difference which way combs are put into the frames, as I have proved. I made the discovery in this way—one very warm day in September, 1875, I was extracting honey from the brood-chambers of several Adair hives and cracked several combs at the top, so that they would not bear their weight right side up, so I turned them top side down, intending to turn them as soon as the bees got them mended, but I missed one and left it in the hive till I was overhauling it the next spring, when I found it all nicely fixed up, straight and smooth, with more brood in it than in any other section in the chamber. I have since put combs in frames just as they fit best, and never have had any cut out yet, which Mitchell says they will do, in his 'First Lessons in Bee Culture.'"

C. T. SMITH.

New London, Minn., April 21, 1878.
"Bees commenced to gather pollen and some honey about the 1st of April, and also to rear some brood. They now have whole combs filled with pollen, and the queens are laying profusely. Every one of the 60 colonies are doing well. They are all in the North Star Hive. One that had been a choice queen for 2 years now proves to be only a drone layer. Apples and plums are just commencing to bloom."
O. W. PARKER.

Jesuit's Bend, La., April 14, 1878.
"I use in my father's apiary, a bee smoker consisting of a roll of bagging about the size of the wrist and a foot and a half long, sewed up together. I make it of old oat and bran sacks—one cut in half will make two. By lighting the end of one of these you have a splendid smoker which never goes out and is very handy." GEO. E. R. FOX.

West Chester, Pa., April 12, 1878.
"Bees are swarming in this vicinity from the Centennial hive. A neighbor had a fine swarm thrown off, on the 2nd of April, and another on the 3rd. Then there was very little honey to be gathered. Now we have abundance of blossom,—the peach, plum and cherry; also Norway maples are giving considerable honey."
E. PENN WORRALL.

Malden, Ill.
"I have handled bees more or less for the past 58 years. Formerly, we got them to do all we could, and then brimstoned them.—Last spring I had but 6 colonies, increased to 20 last fall, in fair condition for winter, besides having obtained over 300 lbs. of honey. After willows and maples bloomed, gooseberries came, giving considerable honey; then dandelions, apples and raspberries. In June white clover was good; the drouth came in the first week in July, lasting a month, during which the bees gathered no more than they consumed.—The bees visited buckwheat till about 9 A. M., then some went for the lady's-finger and heart's-ease till about 3 P. M. They were busy on melilot clover from morning till night, preferring it to the golden rod.—Buckwheat is good for honey. During the drouth bees visited catnip. I have learned more from the AMERICAN BEE JOURNAL as to how to handle bees than from all other sources, and wish it every success."
R. CORBETT.

Otter Tail Co., Minn., April 15, 1878.
"Having had considerable experience with foul brood several years ago, I can say, with much confidence, that there is no danger in using hives which have contained foul brood if proper care is used in cleansing them. The process is simply to scrape the hives and frames and then scald them thoroughly with boiling water. I have removed bees and purified the hives in this way, and returned the bees to the hives the same day, repeatedly, without any recurrence of foul brood. The combs cannot be preserved without taking more time and labor than they are worth. But they need not be wholly destroyed. After cutting out and burning the parts containing the dead brood, the remaining portions of the combs may be melted into wax and the honey which they contained boiled and skimmed, and then used in any way which the owner desires, without danger." D. BURBANK.

Appleton, Wis., April 21, 1878.
"FRIEND NEWMAN: I have been appointed by the Commissioners of the National Bee-keepers' Association to make a statistical account and report of honey and wax production of our State for the year 1877. My advantages for gathering such information is so limited that I think best to secure the help of the JOURNAL, requesting all who have information in their county, in this State, to send it to me before July 20th, giving names of bee-keepers and county, and the amount of honey and beeswax."
A. H. HART.

[This table will be of value, and our friends in Wisconsin should respond promptly to friend Hart's request. It will be benefiting themselves in the end.—ED.]

Limerick, Ill.. April 18, 1878.
"I saw on page 76, of the March No., that A. C. Balch had a swarm cluster out of reach and remained there till next morning. A friend of mine, when bees settle out of reach, takes a looking-glass and throws the bright rays of the sun on the lower edge of the cluster and gradually move it down; the bees come down too. I never tried it."
E. PICKUP.

Flatbush, L. I., April 20, 1878.
"DEAR EDITOR: Will you allow me, in your valuable JOURNAL, to correct the report of my paper read before the Nat'l B. K. Association, in a part at which a gentleman feels aggrieved(?) I commended a bee-feeder, consisting of a small trough, without float, under the top-bar of a comb frame, but I said the device was patented. This statement was omitted in the report which, in its present form, the patentee thinks, does him injustice, and is calculated to mislead the public. I stated, however, that I believed the patent was not valid, as the same thing, in a slightly modified form, had been used by others for a long time, and, particularly, as I was informed by what I considered good authority, by the manufacturers of the State of Maine Bee-Hive. Will some of your readers, who know about that hive, tell us whether my information was correct, or who the proprietors or patentees of that hive were?"
JARED HASBROUCK.

Modesto, Cal., April 7, 1878.
"Bees are doing well. I expect to have sections filled in a day or two. I have mammoth stocks with a short shallow frame, 8x 13½, and hive 2 feet long. I take away all the empty space in the brood apartment that the queen does not occupy. I put my sections close up to the brood nest. When the bees are gathering freely, I lift them out partly filled and put them into the upper story." J. F. FLORY.

Carson City, March 10, 1878.
"The season is 6 weeks earlier than any has been for 7 years. Bees are in good condition. They carried in pollen on the 7th inst. I use a frame 10x10 inches, and think it the best for this climate."
HIRAM ROOP.

Crystal Springs, Miss., March 9, 1878.
"I had in winter quarters 35 colonies. I have only lost 1; my bees are now raising brood rapidly, and gathering some honey.—I commenced with 13 colonies last year, reached 41, sold 6, and secured about 600 lbs. of honey. Bingham's smoker is a success."
J. W. MCNEIL.

Lynnville, Iowa, March 18, 1878.
"Our 164 colonies, put up the last of Nov., came out the first of March with a loss of 2 per cent. 151 are in fine condition; as strong, if not stronger, than they were last June. With our bees in this condition, we feel confident that we shall reap a good harvest."
C. F. DILLEY.

St. Mary's, Ind., March 6, 1878.
"The AMERICAN BEE JOURNAL comes loaded with good things. Can't see how it is possible to make it so much better every month. It is always a welcome visitor.—My 10 colonies have wintered splendidly on their summer stands. Our winter has been the warmest ever known here."
THOS. J. WARD.

Platteville, Wis., March 11, 1878.
"My bees brought in pollen on the 7th inst., a month earlier than last year. My 68 colonies in the house apiary are in good condition. I have 32 more, 5 miles from the house apiary. My bees are all black. I have tried Italians 3 times and my faith in them is weak. In 1871, 58 colonies of Italians and blacks dwindled to 14 blacks; from these I have raised my present 100 colonies."
E. FRANCE.

Murfreesboro, Tenn.
LARVA EATING:—"In the March number, page 87 of the AMERICAN BEE JOURNAL, A. E. Manum, of Bristol, Vt., states that bees use their larva in making royal jelly—food for queen larva. Will Mr. Manum *please* inform your readers how he ascertained *this fact?* Did he make repeated experiments, so as to leave no doubt, or does he suppose, reckon, or guess they do?"
W. P. HENDERSON.

Columbia, Tenn., March 15, 1878.
"We are now having beautiful weather. The peach trees are in broom. The grass, the buds and the blossoms are coming rapidly, and the bees are having a good time; they are much excited and very busy. Out of 22 colonies I have lost 3—starved to death—through culpable neglect; and, if I were speaking of somebody else, I might say *criminal neglect.* The survivors are doing finely—raising young bees—some already hatched. The winter has been remarkably mild here, and the present indications are flattering for a good honey crop."
W. S. RAINEY.

Des Moines, Iowa, March 6, 1878.
"The double-walled hive with me, thus far, is a success. My bees came through the winter with nice, dry combs, free from mould, and are now increasing fast with brood."
WM. CLEMENT.

Dakota Co, Minn., March 11, 1878.
"From 10 colonies, last spring I got 600 lbs. of extracted, 600 lbs. of comb honey in section boxes. and increased to 18. I put them into the cellar Dec. 1, and they are all strong now."
E. W. FELTON.

Birmingham, O., March, 7, 1878.
"Bees are doing well, bringing in pollen from the elm. On Feb. 22, I found all but 1 colony in good condition, and in chaff hives found 3 frames with about 10 square inches of brood each."
C. A. GRAVES.

Fairfield, Wis., March 16, 1878.
"We took out our bees about the 1st of March. On the 6th and 7th they brought in pollen; almost a month earlier than usual. Bees have wintered well here."
WALLACE PORTER.

Nevada City, Cal., March 11, 1878.
"I saw a question in the JOURNAL enquiring whether bees would gnaw linen or cotton when placed over the frames. I have been feeding with sugar syrup, poured upon linen and placed over the frames, with the cover over that. The bees did not gnaw it at all."
R. E. BUSH.

Jones Co., Iowa, March 6, 1878.
"This has been a warm winter. I put 68 colonies in the cellar, Nov. 24. As it was so warm, I took them out several times, and lost none. All are on their summer stands now in good condition. I consider the JOURNAL the best bee publication—having read them all."
J. E. HUNTER.

Keokuk Co., Iowa, March 8, 1878.
"Took 109 colonies out of the cellar today in good condition. Have kept bees 7 years and never had them winter so well before. I winter in a well-ventilated cellar, and never lost but 3 swarms. One queenless, and 2 late swarms starved. Your 'typo' made our report nearly 2000 lbs. of honey, instead of 4000 lbs."
S. L. & M. VAIL.

Cedar Rapids, Iowa, March 11, 1878.
"I have 33 colonies of bees; lost none in wintering; they are in splendid condition; all have brood and bees hatching. Bees have been gathering polen quite rapidly the last few days. I wintered in the cellar. I have a foot-power saw for making hives and fixtures, and would say to any person keeping bees that they cannot afford to do without one. I agree with Mr. Palmer on the raspberry question, and think that bee-keeping and small fruit business should go together. I have 2½ acres of raspberries; they are always alive with bees, while in blossom. My honey took the two first premiums at the State fair last fall. Success to the AMERICAN BEE JOURNAL."
THOS. B. QUINLAN.

Shawano, Wis., March 16, 1878.
"I have 22 colonies in Langstroth hives, (8 frames,) made of straw, by myself. I have wintered out doors for 2 years without loss." H. KLOSTERMAN.

Garden Plain, Ill., March 12, 1878.
"My bees are out of house and are all alive and breeding rapidly—most of them have young bees, hatching—fully as fast as some years in May. If the season is favorable for the secretion of honey, I expect a large yield from my 100 colonies."
R. R. MURPHY.

Waveland, Ind., March 16, 1878.
"I placed in the cellar last fall 44 colonies, and took out 40 this spring. Four lost their queens after being put out. I set them out the first week in March. Most of them had brood. Bees gather natural pollen every pleasant day, and, of course, pay little attention to flour feed. The prospect is good for all kinds of fruit, and an early honey season." ISAAC SHARP.

Perry Co., Mo., Jan. 21, 1878.
"I commenced with 1 colony, in box hive, in 1863; I got a colony of Italians in a Langstroth hive in 1869, and subscribed for the AMERICAN BEE JOURNAL. Some of my neighbors, who keep a few bees in box hives, made fun of me at first, and predicted a failure—but now they don't seem so 'funny.' Last year was a good season for bees, while the two years previous were the worst I ever knew." M. H. MILSTER.

White Co., Ark., March 4, 1878.
"I commenced last spring with 2 colonies; these produced 85 lbs. of nice, white, comb honey each, which I sold at 18 cts. per lb. I paid $10 each for them. They were in movable, comb hives, but were black bees. In July I bought an Italian queen.—I introduced her into a hive; it was my first attempt at Italianizing. In September last, to my great joy, I found that I had a full colony of Italians. I bought, in June, 14 colonies of bees in common hives, and transferred them to movable-comb hives.—The 13 colonies are strong, and have plenty of honey. I saved, while transferring, about 100 lbs. of nice honey, which I have had for table use." D. I. BEECHER.

Brecksville, O., March 18, 1878.
"Bees came through in splendid order—no loss whatever. Thanks to instructions in the old and reliable AMERICAN BEE JOURNAL. I put 25 colonies in the cellar, leaving the balance on summer stands, packed in chaff. After a careful examination of bees and stores, I am satisfied that those in the cellar wintered with the smallest loss of bees, and consumed from ¼ to ⅛ less honey, notwithstanding the winter has been one of extraordinary mildness. No further argument is needed, in my case, to show the *economy* of wintering in cellars, if proper conditions are observed. Very few losses in wintering have been reported in this vicinity, and unless the season should prove a very poor one, it is safe to predict a large yield from Northern Ohio the coming season." CHAS. S. BURT.

Ridgeley, Mo., Feb. 22, 1878.
"My bees have wintered well—using but little honey. They are strong in numbers. I wintered on summer stands, packed in boxes, with hay." JOHN SCHEERER.

Milan, Ill., March 30, 1878.
"I have been 12 years in the bee business. Commenced with 1 swarm, and now have 112. Don't know anything yet about bees, but expect to learn somethimg from each copy of the JOURNAL. My bees are in fine condition, and the prospects are first rate."
C. H. DIBBERN.

Milledgeville, Ill., March 27, 1878.
"The Barnes' saw arrived on Saturday, in good condition. It ia a *good* saw. My bees are now on their summer stands.—They are in excellent condition. Did not lose a colony in wintering. I have received one of Novice's smokers. It is much inferior to Bingham's. The latter is the cheapest, and far more convenient."
F. A. SNELL.

Riverton, Iowa, Feb. 8, 1878.
"Our great drawback, in the bee business, is that we have no bloom that affords honey in June. A great many bees, kept upon the old principle, died last June of starvation. I had 42 colonies; they cost me $1 per day for food. Our fall flow of honey was good. During the season of 1877 we had but little increase, but plenty of honey. About 10 tons in this county. I tried 3 dollar queens last season, and they were as good as any warranted ones I ever had, and I have paid as high as $8 for a queen."
ED. WELLINGTON.

Clarks, O., March 8, 1878.
"Bees have been gathering pollen and honey since March 1st. They are in good condition and breeding finely. Of 22 colonies, I have lost none; winter on summer stands. Some boys stole 3 frames, a few days ago, from a colony, taking about 15 lbs. of honey, the queen and about one half of the bees. I united what was left with another colony. I am using the adjustable bee-hive, and like it. We get our honey in section frames, and use the extractor. I shall try fertilization of queens in confinement, by a method I have long had in contemplation; will let you know how I succeed. Success to the AMERICAN BEE JOURNAL." J. A. BUCKLEW.

Marathon, N. Y., March 18, 1878.
"I like the AMERICAN BEE JOURNAL very much, and the better I become acquainted with its management, the more I prize it. Last Nov., I put 40 swarms of black bees in a house with a wall 8 inches thick, filled with sawdust on all sides, top and bottom; lined the walls with building paper on the inside, gave ventilation at top, and in center, at the bottom. Owing to the mild winter, it was hard to keep the temperature low enough to keep them quiet. I placed them on their summer stands the last of December for a flight, (the weather being warm); put them back dry and nice, where they remained until March. They are strong in numbers, and combs are

bright, excepting a few. The weather continued warm, and in their eagerness to commence their season's work, they gave me trouble by robbing; and then there would be sneak-thieves, of my own or my neighbors, that would commence to fly about a strong swarm, and in a short time they would alight upon and enter in force. After protecting that one, they would go to the next one, but by close watching I managed to keep even with them until the weather cooled down. I have lost 2 out of the 40 colonies, owing to mismanagement last fall; they went into winter quarters with poor queens, or none at all. Please answer through your columns the following questions: 1. Will bees cluster and commence work in section boxes as readily, and with as good results where the division tins are used as they will when they are not? 2. Are section boxes with glass on either side preferred to them without glass, in the market? 3. Is tobacco smoke injurious to bees if used moderately while handling them?" OSCAR COURTNEY.

[1. Yes: just as readily.

2. They were last year — what may be demanded this year, is not yet determined. The Prize boxes may be glassed or not, as the market may demand, before shipping.

3. No; if used in moderation. Rag or punk smoke is better.—ED.]

East Pharsalia, N. Y., March 14, 1878.

"I started last spring with 3 swarms; increased, by artificial swarming, to 9, and took about 75 lbs. of comb honey. I have now 9 strong colonies. Bees are busy at work on the sugar maple, where the farmers have tapped the trees. I use the Langstroth hive, and winter out of doors; made boxes 6 inches larger than the hives, every way, and packed space with chaff; they came out clean and bright this spring.—Have taken the chaff out, but will leave the hives in the boxes until about May 15. We have strong winds here through April and the first of May, and the boxes will keep the wind from blowing heat away from the hives. I intend to buy 5 more colonies, and then increase to 50. I experimented last year on comb foundation, and it was a perfect success; the bees accepted it, and drew out the cells quickly."

FRANK ROBINSON.

Oneida, Ill., Feb. 20, 1878.

"I believe I have made a valuable discovery; and that is to use wire cloth instead of canvas to pack absorbent around the frames in the hive; chaff, dry leaves, or saw-dust, may be used. Make a box 3 inches larger one way than the hive inside, and 2 frames high. To use the Langstroth frames, the hive should be 18⅜ inches by 21⅜, and 22 inches high. Make a frame of (common plastering lath) thin stuff, 1½ inches, to go into the hive; lath should be edgewise, with lath posts, about 6 inches apart; nail or tack the wire cloth on the inside of the frame, and pack the absorbent between the hive and the wire cloth. By this plan, the chaff is next to the bees. The chaff cover, made of wire cloth, will rest on the comb frames and be 3 or 4 inches thick. For hot weather, take out the absorbent, and the hive will be thoroughly ventilated. Take out the inside frame, and put the comb frames cross-wise and the hive will hold 8 more frames. We want more room in summer than winter; let the side of the comb frame run down ⅜, to rest on the bottom, and the top frame rest on the under one. I have kept bees 10 years; have set one hive over the other with comb frames, in the past 7 or 8 years, and like the plan first-rate." A. REYNOLDS.

Mount Pleasant, Iowa, March 13, 1878.

"Bees have wintered well. I have wintered 55 colonies on their summer stands, with the loss of but 1, which was queenless. My largest yield of extracted honey, last season, from 1 colony, was 394 lbs., in a double-story, Quinby hive. Please answer the following questions in the next JOURNAL: 1. In using close-fitting, section frames, how can you tell when the inner frames are filled and ready to take off, without tearing them all up? 2. What holds the sections in place while on the hive? 3. Are the outside sections to be glassed? 4.—I intend using sections with close-fitting ends and ¼ inch top bar, covering the same with cloth; so by folding back the cloth, you can see down through, to know when they are filled. Is the idea a good one?"

JOHN. A. THOMAS.

[1. You can tell only upon examination, but that can be easily done without damage.

2, and 3. Answers to these will be found on page 156.

4. If you don't intend to glass them, your plan will do.—ED.]

Harrisville, Pa., March 16, 1878.

1. Is it best to hang the Prize Boxes in a case, or glass each outside one and fill the hive? 2. Are wooden separators as good as tin? They would be cheaper. 3. Is ¼ inch enough space for bees, as that appears to be all the room there is, with the separators?" JACOB PATTERSON.

[1. Either plan is good. See description in full on page 156.

2. Wooden separators have been tried, and abandoned by many. Bees will fasten comb to them, sometimes, and the capping will then be broken when removed.

3. The ¼ inch space between two boxes is supplemented by the thickness of the tin, giving them space enough to pass.—ED.]

Kewaskum, Wis., Feb. 12, 1878.

"The past season was a good one in this section. I had 20 colonies that made 4,300 lbs., (an average of 225 lbs. to the hive). I have sold all at from 10 to 12 cts. My neighbor, Mr. G. Kuck, had 2 colonies of Italians; one was so weak last spring that not more than a pint of bees was left; I took them in hand, and through May they increased very fast, and on the 1st of June one gave a large swarm. When the other

swarmed 1 gave them an Italian queen, which was accepted, and in 10 days it gave another large swarm; the combs being well filled with brood. From the 2 colonies I made 11, and introduced Italian queens, which I sold him for $2 each. The account stands thus: Eleven swarms, at $5 each, and 550 lbs. of honey, sold at 10 cts. per lb.—Total, $110. The expenditures are: Eleven queens, at $2, and 11 hives, at $1.50 each, amounting to $38.50; leaving a net profit of $77.50." WM. HOLLOM.

Hillsboro, Ill., March 20, 1878.

"Bees are out of winter quarters in good condition, with a shrinkage of not over 3 lbs. since the first of December."

I. H. SHIMER.

Mishicott, Wis., April 5, 1878.

"I put my bees out March 20th. Wintered them in the cellar; lost 2 colonies, and found a few queenless. The rest of them are in good condition. We expect a good harvest." FRED CLAUSSEN.

Garafraxa, Ont., March 11, 1878.

"My report for the last 2 years would be: In 1876, I put 18 colonies into a dark, but not dry cellar. Thermometer stood 40 to 42°; after 5 months' confinement, set out 16. In 1877, put 30 colonies into same cellar, on Nov. 7, and set out 30 on March 10. Thermometer at 42°, during all that time. Entrances open ½ inch and *new* sheets of duck over the frames. Water stood in the cellar during both winters. I have noticed that those colonies having the least pollen, had least moldy combs. Please get your readers to give more definite reports of their modes of wintering."

J. C. THOM, M. D.

[Yes; it would be more useful and satisfactory, if all would give the manner of their *preparation* for winter.—ED.]

Smithsburg, Ind., Feb. 15, 1878.

"I wish some expert in bee-culture would explain why a queen, reared in Italy, will produce more eggs than one reared in America, and why they are better honey gatherers than the American bees, and why the dark bees reared in Italy will gather more honey than the yellow ones? And also why we never could get yellow queens from Italy before last season? Some say that their imported queens are very large and yellow, and also their workers; even more yellow than our home-bred Italian bees. I would like to see some of these beautiful, imported bees. I have had some imported queens that cost me almost $16 each. They were small and dark, as was also their progeny; and some of the queens were impure. If the yellow, imported queens are not the best, why does one of our dealers ask one dollar more for them?—He seems to think we should be satisfied with imported bees, whether pure or not.—I, for one, am not satisfied with any impure bees; I would not have them in my apiary. I have queens that will produce workers with the 3 yellow bands solid, with no black between them. These I call *pure* Italians." D. A. PIKE.

Pontiac, Ill., March 20, 1878.

"The AMERICAN BEE JOURNAL has saved me, in clear money, $56.25 in the matter of hives alone, in two years, to say nothing of all the other information I have gained, which cannot be shown so readily by figures. Those who do not take the JOURNAL stand in their own light."

R. MATTHEWS.

"Albion, Iowa, March 14, 1878.

"My bees have wintered splendidly.—They became so restless that I had to remove them from their winter quarters on Feb. 11; found 1 dead—queenless. I made little increase in stock last year, but got a very satisfactory yield of honey. Being very busy with other business, last year, I concluded to let them attend to the swarming business themselves. This year, I propose to run the swarming business myself. Last spring, they came out of winter quarters with a fair supply of drones. As it is their custom to kill off their drones in the fall, why did they deviate from the general rule in this case? I see some writers on honey-producing plants class thoroughwort, or boneset as one of them. I have plenty of it, but have never seen a bee on it yet.—Are they not mistaken in confounding it with motherwort, which is a honey-producing plant? It is a prevalent theory among apiarists, that it takes about 20 lbs. of honey to make one lb. of comb; and therefore, that a colony of bees will make that many more pounds of honey in the same time, if they have the comb furnished them. In the first place, I would ask some one to explain to me by what experiment that fact (if it is one) has been ascertained? I have seen 2 colonies, of apparently equal strength, side by side, the one having a top box, of 15 lbs. capacity, filled with empty comb, of last year's building; the other, with an empty one, throwing off a swarm; said swarm filling a 15 lb. box, while the other had made no visible progress towards filling their empty comb. Why is this?—Or why, as a general rule, will a young, natural swarm fill its hive at the same time of making its comb, and make as much surplus honey in the season as the parent hive?" J. C. ARMSTRONG.

[Will some one who has experimented as to the cost, in honey, of comb-building, give the desired information.—ED.]

Forestville, N. Y., March 11, 1878.

"As I am thinking of building a winter repository for bees, I would like a little information concerning the construction of the same. Which is best, a cave, or a house above ground, with walls of 8 or 10 inches of saw-dust, and a 4 inch dead-air space?—Would it be best to plaster it? Is a gravel floor better than concrete? Please answer through the JOURNAL?

I went into winter quarters with 12 colonies in Quinby hives; had them out for a fly, on March 8, 9, 10. One is dead, the rest are in good condition. I wintered in my cellar, which is too damp for successful wintering.

I see you go for the crystal honey business. A friend of mine obtained a recipe of

one of J. H. Reeves, 78 Nassau St., N. Y., to make the celebrated crystal honey, paying $5 for it, which he (Reeves) claimed would make an article as much superior to bee honey as bee honey is superior to New Orleans molasses. My friend made some of it, and was badly humbugged. Could send you the recipe, if I thought it would be interesting." H. D. G.

[Either a cave or a house will usually winter safely, if properly prepared. A house, such as you mention, will do if the temperature be kept from 3 to 10 degrees above freezing point, and it is perfectly dark and well ventilated. These points are more important than plaster, concrete or gravel. A cave should be beneath the surface, in sandy, or well ventilated soil; straw should be packed below and around the hives; the entrance open, but secured against mice. A mound of earth should be over them, to secure equal temperature.—ED.]

St. Charles, Mo., April 12, 1878.

"I have 100 Italian colonies in good condition. Never in 10 years have had such a favorable spring. Bee-keepers ought to be happy." A. S. WILLIAMS.

Vermont, Ill., April 11, 1878.

"My bees are now doing better than they did a month later last year. Drones are flying, and a small amount of honey is being gathered; brood in all stages of development. Could not do without the JOURNAL." HARDIN HAINES.

"I enclose some blossoms of a tree that the bees work on from morning till night.—Please give its name." D. A. PIKE.

[It is the staminate flower, of one of the willow family. Locality, time of bloom, and more of the plant than one simple blossom should be sent. We need to know the habit of the tree, and to see the leaves. —A. J. COOK.]

Smith's Grove, Ky., April 16, 1878.

"My bees are in good condition. I did not feed any this spring, and never had better success in springing my bees. They are now preparing to swarm. I am raising queens, and the white clover is just beginning to blossom. We are a month ahead of time. The weather is balmy, and our prospect is good for a rich honey harvest, though we may have a freeze yet. In Italianizing, we sometimes find it very troublesome to find the black queen, especially if the bees are strong. I have succeeded in Italianizing a few such colonies in this way:—I put a queen cell in the honey box, on the top of the hives, and it was a complete success. The young queen, being the most active, was victorious in the contest. The cell must be put in the honey box, where the old queen does not go, or she might destroy it." N. P. ALLEN.

McKinney, Texas, March 1, 1878.

"In the last January number, of the AMERICAN BEE JOURNAL, page 10, you answer a question, put by F. R. Davis, and the first sentence goes beyond the 'old school,' and, by implication, indorses the doctrine of Mr. Martin Metcalf, as set forth in your very excellent JOURNAL, Nov. No., 1877, page 381. Did you intend to go so far? I have no doubt of the correctness of the doctrine of Mr. Metcalf, notwithstanding the learning of the great bee-men and the books. Please speak out, right in the meeting." W. H. ANDREWS.

[Certainly. Friend Davis had a swarm with an Italian queen, and hybrid bees, settle in his bee yard. The bees that this queen produced were all beautiful Italians. He asked: "Were they pure, when the queen came with a hybrid swarm?" We remarked: "If the queen was pure and purely mated, her progeny is pure, no matter in what company she may be. Most likely she had been recently introduced to the colony and led off the swarm." We see no reason for changing that opinion.—Being pure and purely mated, her progeny *must* be pure. Decidedly so.—ED.]

Rockton, Ill., April 2, 1878.

"I put in my bee house 41 colonies, last fall, and took out 41 colonies this spring, in good shape, dry and nice, with lots of brood." H. W. CONKLIN.

Dunn Co., Wis., April 13, 1878.

"I have quite an amount of empty comb; how can I keep it from the moths?"

J. STODDARD.

[Examine frequently, and if any traces of moth are discovered, fumigate them with a little sulphur.—ED.]

Burlington, Kansas, April 5, 1878.

"I have wintered 13 colonies, 9 of them I transferred from box hives, during the winter, with success. All are now in fine condition. Gathered first pollen, Feb. 5, and to-day, I have drones flying, hives full of honey from fruit and red bud bloom, which is now making the little fellows happy, judging from the music among the flowers. Some colonies have commenced queen cells already, and they have not been pushed any either; neither are we away down south, only on the 38th parallel. Our prospect for a rich harvest is promising."

J. W. HENDERSON.

Winnesheik Co., Iowa, April 9, 1878.

"I put 43 colonies in the cellar, about December 1st, and took them all out February 1st; all but 3 were in good condition; these were weak last fall, and I did not expect to save them. Two were robbed when I was away from home, the other is doing well. There was but very little loss of bees. I winter in the cellar."

O. E. COOLEY.

Constantine, Jan. 15, 1878.

"1. What are we to do, that have invested in patent hives? How can we dispose of our colonies of bees. I suppose we can sell hives and bees, but has the purchaser a right to use them? I refer to Mitchell's adjustable hive. He claims a patent March 9, 1875, for 17 years. I think it an excellent hive, but do not want to increase in a hive that I cannot dispose of. The patent seems to be the division boards, by which the space can be diminished or increased at pleasure. I see Mr. Doolittle is using something similar, and others, claiming that it was not patented. I wish to be on the safe side—therefore the inquiry.

2. Why could not a plain home-made sheet of wax be used for foundation combs? If the bees have the material, will they not construct them as well as when they furnish the material themselves? I mean to try it in the spring. A NEW SUBSCRIBER.

[1. Mr. Mitchell says he waives all right in such a case of purchase. His patent is *not* on a division board—but the use of it with "lugs" and rubber strips. Any one can use a division board; the "lugs" and rubber strips are non-essentials, and are useless in any other hive. The hive proper and frames are not patentable, and it is not likely that the purchaser would be disturbed. If you *like* that hive, there is no reason why you should not use it—but we think the Langstroth would please you better, and would be more desirable in the sale of colonies.

2. Bees will supply the wax, or will generally use such as may be supplied, whether the base of cells be impressed or not.—ED.]

Lansing, Mich., April 15, 1878.

"I have unpacked my bees, and found all alive and in a very healthy condition; there being brood in every card, except the two end ones. Drones are hatching very rapidly. My bees were wintered out of doors. Inside boxes so as to fit over the hives, allowing a foot between the boxes and hives; from the entrance I had a passage-way, so that bees could go out at any time. The space between the hive and box was filled with straw; this had a roof, so as to keep out water and snow. I think this the safest way to winter on summer stands. It is the same as Prof. Cook recommends in his new book." FISK BANGS.

Nahua, Iowa., April 13, 1878.

"Bees wintered well; I wintered in the cellar and did not lose a colony. The prospect is fine for a good season. I bought my queens last year of J. Oatman & Co., and they were very prolific—keeping their hives full of bees and brood. I have kept bees for 9 years, but the Oatman stock bear off the palm for being quiet, peaceable and good to handle. I shall re-queen 50 colonies this season, and want no other kind. I shall raise all my queens from the Oatman tocks." E. J. SCOFIELD.

Southern Notes,

GLEANED BY

W. J. ANDREWS, - COLUMBIA, TENN.

KIND FRIENDS:—With this number we withdraw from the management of this department. Our love for the busy little insect and their managers is as strong as ever. We love to handle bees, and converse with those who handle them. To us, it has always been a pleasure to receive and answer letters pertaining to their management. We never engaged in the business with a view of any gain, but solely for a pastime and the pleasure it afforded us. To handle bees successfully, especially for profit, requires strict attention; as much so as any other business. My business has assumed a shape that it will require the whole of my time—undivided with any other occupation. I have, therefore, arranged with a friend to take charge of all my hives, and I withdraw from the business in toto.

With many thanks for numerous acts of kindness and wishes of good feeling I have met with at your hands, and with kind wishes to all, I am

Yours truly, WM. J. ANDREWS.

For the American Bee Journal.

Honey Dew.

Some contend that it is evaporated from flowers, and falls on the leaves of trees, as other dew; others are of the opinion that it is wholly the product of aphides; and others, still, think it is the product of exudation through the pores of the leaves of certain trees.—That it is caused by evaporation from flowers is at variance with reason, since saccharine matter never exists in a volatile state, and cannot be taken up in the air by the process of evaporation.—This is fully demonstrated in the art of sugar and syrup making. Then we must look for its cause either as the product of excretion from aphides or exudation from the leaves of trees, or from both causes. We assume that it is from both, but mainly as the product of exudation.

That from exudation, which is always during dry, warm weather, is doubtless caused by an effort of nature to perform her proper functions, which have been partially suspended by exterior causes.

This is forcibly exemplified in the foliage of certain trees, such as peach and plum, which have been injured by late frosts, the result of which is an exudation of saccharine matter much sought for by the bees. It is an effort similar to that brought into action by pomologists to force fruit trees into bearing, &c.

But while we are satisfied that honey dew, with us, is mainly the product of

exudation, still we have evidence that it is not always so.

Aside from the aphides, so often spoken of, and so minutely described by naturalists, we occasionally find, in this part of our great domain, masses of small semi-globular, animated beings, (don't know what to call them,) which appear to be almost destitute of both life and motion. They are found on the twigs and small limbs of young poplar trees. Beneath them, when numerous, the leaves, branches, weeds, and even dry leaves are literally covered with honey dew, and bees visit such places in great numbers. That this is the product of exudation is out of the question, from several considerations.

1. The honey dew is never above, but always beneath them. 2. These beings could not be attracted there, since they are apparently destitute of the means of locomotion. 3. If, in this, it was caused by exudation, all poplar trees would be effected at the same time and in the same manner.— 4. The whole of the same tree is not always thus effected.

From these considerations, it is apparent that the so-called honey dew is the result of both vegetable and animal agencies. TENNESSEEAN.

For the American Bee Journal.

Moon-beams from Georgia.

IMPROVEMENT IN BEES.

The proceedings of the North-Western Ohio Convention, on page 48, Feb. No., should be read with interest, by all breeders of the pure Italian bee.

The resolution offered by Mr. Williams, discouraging the traffic of cheap untested queens, and urging the purchase of only pure, choice queens, was one that will meet the views of all intelligent "breeders." The intelligence manifested by members of that convention, in sustaining Mr. Williams' resolution unanimously, speak volumes to their praise. They have a higher aim than filling the country with an impure stock. If the same spirit was manifested by other bee conventions, we might hope for greater improvement in the Italian honey bee.

The resolution adopted by that Convention shall be practiced by all sustaining the purchase of nothing but pure tested queens; then, and not till then, can we hope for much improvement in Italian bees.

BEES, HERE AND THERE.

Reports from nearly all parts, show that bees are in a fine condition.

R. Davenport, of Richland Springs, San Saba Co., Texas, writes that he has transferred 62 colonies of bees, this winter, from log gums to frame hives, and he has over 100 more to transfer.— He took from 10 log gums 1000 lbs. of honey; that he has been a bee scholar 20 years; and that San Saba county is the best for bees and honey of any he ever saw.

APICULTURAL PROGRESS.

American apicultural progress ranks among the marvels of the age. The great growth of this enterprise has not only been a theme of earnest inquiry, but one of speculation. Even amid conflicting views and opposition, the progress of apiculture has moved steadily and nobly onward, until we might say, in fact, that it possesses a national "life;" progress is the life and theme of Americans.

HOW TO MANAGE A HIVE CONTAINING FERTILE WORKERS.

First, give them 1 or 2 frames of brood from some strong colony, place the queenless colony on the stand, where one of the strongest colonies stood; placing the strong one where the queenless one stood. The queenless colony will receive large numbers of bees, that, finding no mother in the hive, will soon regulate matters, and have queens in progress at once. This plan seldom fails to get rid of a fertile worker, and the new queen will reign supremely.

Colonies having no queen should receive a frame of sealed brood, occasionally; this will keep them strong until a fertile queen can be given them.

ITALIAN BEES.

No other part of the world has made greater advances in the production of honey than America. This leads to the belief that this enterprise is fast approaching perfection. It is with no slight feeling of pride that we make these observations.

For years public attention has been directed to the introduction and improvement of the Italian bee. Importation after importation has been made, no doubt, with a view to improvement. The question is now asked, how for, or to what extent, if any, these efforts have been successful? Have we, by careful and judicious selection of this bee, increased their qualities, *viz.* size, prolificness, industry, temperament, color, ability to defend and lay up large stores of honey, &c. The question is, have these qualities been improved since their first introduction into this country? If we

were permitted to judge, we should say that we have failed to see the improvement made, by many American breeders, that should have been made.—They are as much susceptible to improvement as any other stock; and had they received the necessary care to develop and bring those qualities out, it would be apparent now. But we cannot expect it under the present system of management. While so many are engaged in breeding, and sending all over the country, hundreds and thousands of untested queens, just so long, we shall see improvement in the Italian honey bee retarded; it cannot be otherwise. Hundreds of these queens are impurely mated, and many of them are sent into places where the Italian bee is bred in its purity. It will be necessary, in order to continue, to breed them pure, to get rid of these impure bees.—This costs time, and is very much to the injury of those breeding genuine stock.

This system will, no doubt, continue until people appreciate the value of pure stock.

Rome, Ga. A. F. MOON.

Swarming and Surplus Queens.

MY MANAGEMENT FOR SWARMING.

I am professionally a telegraph operator, and keep bees for both amusement and profit. My business keeps me away from my pets during the day, and I have been somewhat concerned as to what plan I shall pursue during the coming swarming season, and have decided upon the following:

1. I shall have 2 or 3 very light, portable hives, made to contain 6 Gallup frames, so arranged that they will not shift about while carrying the hive from one place to another. I shall have a large opening, covered with cloth, in the bottom of each, to allow plenty of ventilation.

2. I will have all my empty hives properly arranged where they are to remain.

3. I will have every queen with one wing clipped.

Now for the mode of operating:—Whenever a swarm shall issue, I will have my wife to catch the queen and cage her, which she can do very well.—Then cover old hive with a cloth, so as to hide it from the returning bees.—Then place the portable hive in front of the old stand, and as soon as the bees commence to return, release the queen in front of the hive. As soon as all are in, she will remove the portable hive, and place it upon the alighting board of one of the new stands, and remove the cloth from the old hive.—Thus they will remain until I return home in the evening; and then, I will remove the frames and bees to the larger hive, where they are to remain, and make everything snug.

HOW TO KEEP SURPLUS QUEENS.

I have a frame, made very much like the one described by Mr. Davis, (page 134, vol. xiii, A. B. J.,) but differs in some respects. The frame is divided into sections; one side is covered with wire cloth, the other has small doors, made of perforated tin. In each section have a shield, made by bending a strip of tin about 1¼ in. wide, and 4 in. long into the shape of ⌊⌋. In this I put a piece of comb, containing honey. I fasten the tin in with a tack.

In this frame of cages I keep all rejected queens, and I think it will answer very well for surplus queens. I place the frame with the queens in a strong colony, and there they will live all summer. In winter they are apt to chill to death. I have no doubt that this plan of keeping queens can be made very useful to some bee-keepers.

S. C. DODGE.

Chattanooga, Tenn., March 19, 1878.

Sumter Co., Ala., Feb. 22, 1878.

"1. Bees are bringing in pollen and honey. If too bountifully supplied, shall I use the extractor for the brood chamber at swarming time? 2. How can I keep the queen out of the surplus department? 3. If a comb is full of honey, and only partly capped, would it be safe to extract without waiting for it to be finished? 4. How shall I unite 2 colonies? 5. If a hive has a tendency to send out more than 1 or 2 swarms, will cutting out the queen cells stop them? 6. Do you think it advisable to heat honey before sending it to market, to prevent it turning to sugar? 7. Can you tell me what smoker will remain lighted, after laying it down, to use again in a few minutes? Unless I keep mine continually working, it will go out immediately." SUBSCRIBER.

[1. Extract whenever it is necessary to give the queen room. 2. If the surplus department is above, the queen will not generally trouble it. 3. Yes; though it would be better if capped. 4. Remove the poorest queen, smoke the bees thoroughly, sprinkle with sweetened and scented water. If in box hive, shake the bees on to a sheet and hive them together. If in movable frames, select the frames having brood and the most honey, omiting others. 5. Yes.—6. If crystalizing threatens, yes. If not, no. 7. Bingham's will do it.—ED.]

Correspondence.

For the American Bee Journal.

Chips from Sweet Home.

On page 88 of the AMERICAN BEE JOURNAL, James Heddon seems to be afraid of *over-stocking* our bee pastures with bees.—One year ago to day I would have said amen to his two columns, but last season's experience has changed my amen to, that—I started out with 150 hives, located on less than ¼ acre; increased to 200,—think I held the increase down too close, however.—These 150 hives averaged me a little over 100 lbs. each. This spring, I shall start out with about 270 hives, to be increased to 400, all in one apiary, and shall get in honey—well—we will tell you better next fall, and as F. I. Sage says, on page 75, we will get it by *plenty of hard work*, which is *not* suitable for invalids, &c. "Palmer, how much help do you have?" I will tell you what I have to do this season: Commence with 250 hives, 4 acres of small fruit, 4 acres of garden truck, 3 horses, 5 cows, 4 calves, hogs and poultry; this will be our work to accomplish. I hire one hand. If I could get one trusty, competent person, (such are scarce for bee business), I would start another apiary next season. James, "with-a-head-on," as O. Clute says, we must work bee business as we do fruit. If we could get a very early, or a very late berry, do you think we could glut the market with that? O! no; says you, because we would have the market to ourselves. Very good; a *few* bee-keepers will keep up to the times, put up honey to suit the demand, and get the highest price; and the many, with box-hives, inch-board boxes of honey, will not be able to compete with the few; consequently, the many will not be among the *few* that will supply our large market with honey.

We, at one time, advocated early breeding by stimulating, but we now think, for our location, it is better to not use any artificial stimulation, either by feeding or separating the brood part and inserting empty comb. Such may pay to keep invalids busy on a few hives, but does not us. None need such but poor, weak hives, and these do not pay us to fuss with, as we have plenty of others that will pay. We will try over-stocking, by running 400 hives in one apiary.

There is a lack of honey-producing flowers between apple bloom and white clover for 10 or 12 days. Where wild raspberries are not abundant, it will pay to cultivate some of the best improved kinds for honey and fruit, as they bloom at this interval, filling up this vacancy. The honey is abundant and of the best quality; bees may not store any in boxes, but it keeps up the breeding, so that when white clover blooms they are strong in bees and brood, ready to store the finest of honey in the surplus boxes. Of all persons who should cultivate fruit for profit, it is the bee-keeper, for he has both fruit and honey; the latter giving him some profit more than his neighbor, who does not keep bees. With care, they can be increased quite rapidly. The first Sweet Home I raised in 1873; in 1874, I raised 22 plants, and fruited the finest Black Caps that I ever saw; in 1875, I raised 50 plants; in 1876, I raised 28 plants from the original bush and 585 in all; in 1877, I raised about 3000 plants, of which my brother bee-keepers have availed themselves of quite a share. They can be planted any time in the month of April. Set 3 feet by 6 feet, and cultivate as corn.

We frequently have persons call to see our apiary, ask questions, &c. We take pleasure in showing them anything of interest, and answering a reasonable number of questions, but there is one class I wish to allude to, and such have just left. They came 10 miles to see things and ask questions. This was all right, but among the first questions I put to such is: "Do you take a bee journal?" Usually those who are over inquisitive do not, and will remember but very little you have told them. Such were my visitors to-day, and after spending 2 hours of precious time to me, I quit answering questions. The last two questions were: "How do you transfer, and how do you raise queens?" I answered them thus: "It will be cheaper for you and me, for you to take a bee journal; then you can read at your leisure, remember and put in practice. What I tell you, you will not recollect." The last words I said to them were, "Take a bee journal."

On page 71 of the AMERICAN BEE JOURNAL, A. J. Cook thinks patents are a public benefit. I, for one, think otherwise, and will say in regard to bee-hives and apiarian supplies, that there has been far more money spent in patents than the benefits arising by the sale of them. Patents has been a bee-hive for sharpers, humbuggers, and a few workers. It has been the means of keeping the price so high on many improvements as to hinder their introduction to honest, law-abiding citizens.

Eliza, Mercer Co., Ill. D. D. PALMER.

For the American Bee Journal.

Experience of a Beginner.

I have been taking the AMERICAN BEE JOURNAL for nearly 2 years, and I think I can safely say that no person can advance very rapidly in the culture of the honey-bee without having the JOURNAL as a guide, to instruct in the science that bee-keepers must necessarily possess.

I have been engaged in this pleasant and lucrative business for nearly 2 years, and I think I have succeeded remarkably well for a beginner. I have, 20 colonies in good condition.

I am partial to the Langstroth hive, which I am using. I consider it the best hive for general utility that I ever saw. I keep them well painted, and a little elevated, to protect them from the ground. I winter my bees on their summer stands, with nothing to protect them from the winter's cold, but a board roof or covering.

It is very important for bees to go into winter quarters with strong colonies. If weak ones, two should be put together, as it

does not pay to feed a weak colony through the winter, and then get them robbed in the spring; at least, that has been my experience, so far. Robbing is something that seems hard to control. The best preventive that I know of is to have no weak colonies in the apiary, and then each hive or colony has a chance to defend their homes and stores. We have had a very mild, wet winter; my bees have done well.

For the benefit of some beginners, (like myself), I will give my plan of building straight comb. My method will apply to those who advocate natural swarming, (of which I am a strong supporter). I think bees do much better when allowed to do their own swarming; they fill their hives much quicker than artificial swarms do. I have examined 6 of my hives that I put natural swarms in this spring, and in none of them found a single crooked comb. For building straight comb, I place my hive, containing new swarm, on a level place where I intend it to remain; then, with blocks, or something suitable, raise the back end about 4 inches higher than the front end. I have the comb guides of frame waxed with a little warm wax. When my hive is put to suit me, I regulate the frames in the same and close it up. Late swarms, should be given brood from strong colonies, to give them a start.

I read an article in the AMERICAN BEE JOURNAL, February number, on the subject of "Honey Dew," which met my approbation. I think it the best article on the subject I ever read. W. T. SEARS.

Warren Co., Ky., March 13, 1878.

For the American Bee Journal.

How to Use Prize Boxes.

The present season will be the first that many bee-keepers will use the "prize" section boxes. I have learned a thing or two, that I think will be of value to those having had no experience with them. The first impulse will be to make the sections into a box of the desired length, either by "paper strips, glued on," or by some kind of frame to hold glass and frames together, by wedges or other means. The holes or slots through most honey-boards, or tops of frames, are none too large to allow the bees to pass readily into the boxes; and some will be very apt to put on these boxes, with the wide, flat pieces on the bottom, so as to cut off most of the space, into the boxes, and more or less dissatisfaction will be the result.

These sections are certainly a great improvement over anything we have had before; all that is wanted is to "give the bees a chance." If the honey-boards or top of frames are pierced to correspond, (or even a little larger than the slot-holes in the bottom of boxes,) all will be well. The majority of hives, however, are not well adopted to have these boxes put on in the ordinary way.

After some experience and considerable study, I have adopted what I consider "just the thing." Take a common lath, 1½ inches wide, rip it into two equal pieces; plane, leaving it ¼ in. thick; make it of suitable length, according to number of frames, and allowing for glass at ends. Now nail to the ends of these strips a piece of lath, plained edgewise. And now, tack a piece of tin on the sides, the width of the end pieces. This will form a very convenient pan to set the sections into; and if made exactly right, will hold the frames and glass firmly together, and form a very neat and strong box. But why this ¼ inch space over the frames? I have 2 objects in view in giving the bees this space:

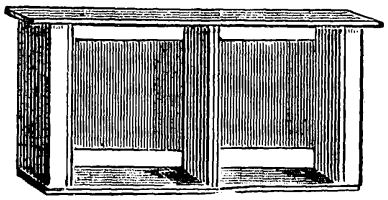
1. It will allow them all the room there is to get into the boxes.
2. They will build comb, full size of frame, instead of leaving ½ inch space at the bottom to run through, to get from one comb to another.

This is especially the case, when put on a hive with tight frames. If you object to leaving this space, and you can arrange to give the bees room enough to pass readily into boxes without, you can make the pan in this way: Take 2 strips of tin, for sides, of the desired length, turning ½ in, like an ⌐ Then nail the wooden piece on the end, and the thing is done. If you find the frames and glass fitting too loosely, fold up a little brown paper and wedge in between the glass and the wooden ends.

Either of the two plans is an advantage over other methods I have heard suggested for holding frames while on the hive. The frames occupy no more space than when held together with paper strips. The holders are easily and cheaply made, and do not stain sides of frames as with glue.

Milan, Ill. C. H. DIBBERN.

[We think the plan for holding Prize Boxes on the hive, as used by friends Doolittle, Betsinger and others, the best. That is, in a



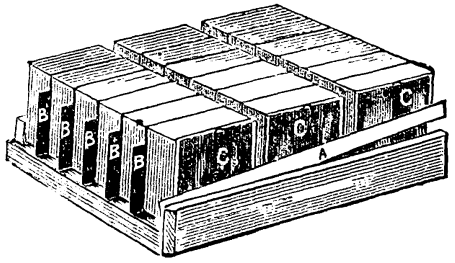
CASE TO HOLD TWO PRIZE BOXES.

"case" 2 inches wide on the top and sides, and 1¾ inches on the bottom, to hang in the hive by a projecting top-bar, as shown in the cut. This keeps the outside of boxes clean and nice for marketing, and the separators used between each case, prevents the combs from being built crooked. As they use a hive similar to the Gallup—their "case" holds but two Prize Boxes, as seen by the cut. If the Langstroth hive is used, the case just takes three,—and seven of these cases fill a story for the latter hive, making 21 Prize Boxes for each.

Another plan, and the best we have seen in that line, is the Rack, as made by Sperry & Chandler, holding 18 Prize Boxes, with the Separators between them, marked B B

in the cut. The wedge, A, holds all with a vise-like grasp. The outer boxes are glassed, as they stand on the hive (C. C. C.). By removing the wedge, A, any box may be instantly removed, examined, returned or replaced by an empty one—the spaces between the rows readily admitting the fingers, for that purpose.

These, so made that they rest at each end on a piece of sheet-iron bent thus, ⌐, prevents their being fastened by propolis. A piece of tin, 2 inches wide, running under the ¾ in. strip, dividing the rows of boxes, projects ⅝ inch on either side and forms an excellent support for the boxes. The separators are 5 inches wide, and rest on the frame of the Rack, as seen at B.



RACK FOR LANGSTROTH HIVE.

A similar Rack is also made, containing 12 Prize Boxes, for the American hive, and Worrall's Centennial hive.

Friend Dibbern will here see some of his ideas already adopted, and from these plans for obtaining comb honey in the most marketable shape, he may be able to glean something even more *progressive* than his own ideas. Comparing Notes, in this way, is advantageous to *all*.—ED.]

For the American Bee Journal.

Texas as a Bee Country.

I came from Michigan to Texas nearly 3 years ago. This portion of Texas, where the climate is so mild and genial—where flowers bloom nearly all seasons of the year, and where bee food can be raised at ALL seasons, in inexhaustable quantities—is one of the best and most profitable bee countries in the world.

The question of "Which is the best method of wintering bees" does not trouble us here, for there is scarcely 20 days during the entire winter but bees wintered without protection on their "summer stands" will be out "taking a fly," and generally "making *honey* while the sun shines."

The possibilities of South-western Texas are, as yet, almost unknown. The stock business, and cotton have heretofore monopolized the attention of the people, even to the exclusion, until recently, of corn and other necessaries of life. Nearly "everything under the sun" will grow in this soil—most things with care, growing prodigiously. With a climate as genial as any in the world, and perfectly healthy, what, I ask, is needed here but industry and a little time to make a man's home and its surroundings "a thing of beauty and a joy forever?"

WM. C. GREEN.

Oakville, Live Oak Co., Texas.

For the American Bee Journal.

The Hive I like best.

I like a frame 12x12 inside, because the larger frames are not as good for nuclei, require a larger or deeper extractor, and I have noticed, as well as others, that the queen prefers as nearly a perfect circle as the comb will admit of for laying, especially early in the season. So here are 3 good reasons for adopting that frame.

Last year my attention was particularly directed to the distance between the frames, by an article in *Gleanings*, or *Bee-Keepers' Magazine*, by Mr. Harrison, of Virginia.—I made the experiments he suggested for a beginner, and sure enough, at 1⅛ inches apart, from center to center, the bees built on the inside of the guides, and very commonly made their combs between the last frame and side of the hive; so I decided upon 1⅜ inches.

Next, the hive question came up, and from all I could learn from books and bee papers, the best plan was to winter on summer stand, provided one had a hive that would resist the winter's cold; and such a hive is calculated to resist the summer's heat as well. Not able to afford money or time to experiment with Finn's, Worrall's, or other double-walled, high-priced hive, and having tools of my own, after writing for estimates from several markets and hive factories, I decided to make them myself; this year at least. Took ⅞ stuff, dressed on one side, made a brood chamber that is a cube of 13¾ inside, with ½x½ in. rabbets; nailed a strip, 1x½ inches, round outside, 1 inch from top, and another around the bottom edge. For sides of outside wall, or case, took the same stuff, but turned the smooth side out, instead of smooth side in, as with brood chamber; cut the sides so as to put back end in mitring, and extend in front for portico, and cut to slope roof of portico from 1½ inches from top of case to 6 inches from top of bottom board. Cut front board of case to fit under roof of portico. Bottom board is 16½x20 inches, grain across, and sides and back of case, cover and mask it, so as to keep off all wet and cold. Nailed bottom board to oak sills, running fore and aft of hive, and cut sloping in front for bees falling on ground to crawl up on, as given in Cook's *Manual*.

A screw on each side, through low edge of case, fasten bottom to hive for transportation. Cap 7 inches deep, house-roofed, and triangular strip to cover, joined at edge.—This for box honey, and tiered up. "Simplicity" fashion, if needed; using Quinby's hive clasps for lower belts if you wish; but for extracting, I have made an upper story, just like brood chamber, double-walling it the same way, and making a flat cover with

a ridged roof over it, to guard against heat. Upper ventilators are through flat cover, and then through gables of roof, ventilators for brood chamber through lower, back corners of inside walls and front, lower corners of outside walls, none of them admitting light.

Now, is it not best for a beginner to make haste slowly, and use such a hive as this, than to go it on the cheap and use a poor hive? Working from patterns, I can make 2 in a day, with the 7 inch cap. The hive for extracting, doubled and complete, will take 50 feet of lumber, but it can be used, temporarily, single, in part or throughout, till you have time and means to put case on; and so can many others.

A 12x14 glass can be put into the back of brood chamber, with a close, double cover, hung on hinges; but, this would be more curious than useful, perhaps, and when you have many visitors, a source of annoyance to the bees, the thing most important is to have a hive of the proper size, but especially to resist the changes of temperature and the extremes of every season.

Those looking for a business in which they can make something out of nothing, or a great deal out of very little, will have to look farther than bee-keeping before they find it. Bee-keeping will pay, but only in proportion to the amount of capital, intelligence and industry invested in it. It takes, perhaps, less money to start in it, but what it does not call for in cash has to be made up in knowledge, pains-taking, and persistent industry; and to any, or all, who think of trying to grow their own honey, I would say, get a book before you get any bees.

Winchester, Ill., WM. CAM.

For the American Bee Journal.

Wintering, Robbing, &c.

I commenced last season with 27 colonies of bees; part hybrids, and part pure Italians, in the standard Langstroth hives. Of these colonies, 7 were quite weak. The others were in good condition. I hived 7 swarms, one of which I gave away, and 2 left for the woods after being hived. Other swarms came off, but at times that I was not observing, and they went off. So my colonies were increased to 31. From these bees I took about 2,500 lbs. of honey, part comb, but most of it extracted. This honey was gathered mostly in June and July. We have no fall harvest here that amounts to anything. My honey netted me $500.00. A portion of the honey I take, (that which is gathered when the linden tree is in bloom), when poured from one jar to another, effervesces. It does so every season, and continues to till cold weather. Persons not familiar with the honey would at once pronounce it souring. But it never has soured. Leaving it in the hive till capped, it effervesces the same.

In the fall I thought I had 31 colonies in good condition for winter. All had a good supply of honey, and seemed to have plenty of bees. About the 1st of Dec. I discovered 1 colony dead and all stores gone; robbed, I suppose, by other bees, after bees had died, or were not in condition to protect themselves. Shortly after, I found a colony with many dead bees on bottom board, but before had noticed robber bees disposed to trouble it. I opened it and found bees sluggish. I changed them to a new hive, but they soon perished.

About the middle of December I discovered my bees eagerly engaged in robbing.—Did all I could to control it, but with little success. Several colonies were destroyed. The ones attacked must have been affected similarly to the one above mentioned; for my assistance availed nothing. Had they been in vigorous condition, the contraction of the entrance would have enabled them to resist the robber bees. It may not be improbable that 1 or 2 of the hives were queenless.

After the cold spell in January, I found several other colonies dead, and several very much reduced in bees. Some of these colonies had nearly every cell filled with honey, a considerable portion of it uncapped, and some quite thin. One colony of Italians had their hive filled so that hardly an empty cell remained, and with the same kind of honey. They were pretty strong, and passed through the cold spell in January, though having so much honey, without injury.

I continued to lose my bees till I lost 19 colonies out of the 31 I had in the fall. I have kept bees since 1872, and this is the first loss of bees in wintering that I have ever experienced. I winter on summer stands; and till this winter, 1 or 2 colonies, lost from oversight as to stores, or by the loss of queens, has constituted all the failure I have met with in wintering bees.

Goshen, Ky., April 2, 1878. JNO. RULE.

For the American Bee Journal.

Detroit Honey Dealers.

Press of business prevented our reading the excellent article from the pen of W. L. Porter, in which he kindly informs us, (the bee-keepers of Sanilac and Lapeer counties), that the dealers of Detroit charge us with buying sugar to feed to our bees, to make honey. Now, I am acquainted with most of the bee-keepers of Sanilac, living, as I do, in the center of the county; and I know, and am authorized to state that the charge is false.

We invariably go to Detroit in the month of October, to market our crop, and any person should know, that knows anything about bees, that we cannot feed sugar or anything else after that date. Some of our bee-keepers, while in Detroit, buy their sugar, tea, coffee, boots and shoes, also other necessary articles, to last them till their next yearly pilgrimage to Detroit, for the purpose of selling their honey. Why do those dealers not charge us with feeding tea, coffee, boots and shoes to our bees to make honey? We will call a convention of the bee-keepers of Sanilac and Lapeer counties some time in June or July, and will probably take some steps to teach a lesson to the dealers in Detroit, by sending our honey to, and purchasing our supplies in, a more honest, and less suspicious market.

Bees all right. Have 74 swarms. Wintered on summer stands.

JAMES ANDERSON.

Farmers P. O., Sanilac Co., Mich.

Average Results.

No page of the JOURNAL is, to me, more interesting than the statement of the operations of the North-Eastern Bee-keepers' Association. From the one given in the last AMERICAN BEE JOURNAL, the following averages may be obtained, as the labors of 24 bee-keepers:

No. of colonies in the fall of 1876	1777
" " " spring of 1877	1239
" " lost in wintering	538

Making a loss of 30 per cent.

As the result of the summer's work:		
Commenced with	1265	colonies.
Increase	850	"
Box honey taken	68366	pounds
Extracted	7166	"
Total	75532	"
Wax	494	"
Extra Italian queens raised	197	
The average per hive (in spring) was:		
Box honey	54	"
Extracted	5⅞	"
Total	59⅞	"

The increase of colonies was 67 1-5 per cent.
Average depth of frame used, 10⅛ inches.
Annual increase of colonies from the fall of 1876 to the fall of 1877, 17 per cent.

B. LUNDERER.

For the American Bee Journal.

Hives—Boxes—Wintering.

DEAR EDITOR:—In reading the Michigan Agricultural College Apiary Report, of 1877, I see that Prof. Cook speaks in the highest terms of the Russell honey box.—While I have always contended that it was the best box in use, for all purposes, still, I claim to have a better one now. I have, since our Convention, invented a device for glassing the light, bent-wood section, exhibited at our Michigan Convention, by Prof. Cook; thus making a lighter, cheaper, and neater, single-comb box than my old one, or any other that I have ever seen or heard of; susceptible of being glassed before or after being filled. I will send one to your Museum within a few days.

He also makes favorable mention of the Russell hive, but does not think it quite as convenient as the Langstroth. By way of explanation, I wish to say that Prof. Cook has, I think, one of the first lot that I made, with inside fastenings at the top and bottom, which made them rather inconvenient to handle. I saw it, and almost immediately improved upon it, by putting side fastenings on the outside. With the advantage of this improvement, and others that I have made since.

I will make this offer, *viz*: I will give, to any man, hives enough to furnish his apiary for one season, who will handle as many frames of any movable hive, in the same length of time, and kill as few bees as I do in my sectional hive; all other conditions being equal. To be done at the next State Fair, at Detroit.

The Professor also speaks of having read in "Bevan, on the Honey Bee," of essentially the same thing. I have a hive in my possession, presented to me by Mr. Hetherington, who has them in practical use, one of the late Mr. Quinby's last inventions, the brood chamber of which is essentially the same. A closed-end frame, or sectional hive, tied together with a string, and very expensive, though the principle is right, in my opinion. A closed-end frame, a box hive, or a sectional hive, are the only ones that I have ever seen that I consider fit to do out-door wintering in. In either of these, every comb is nature's division-board, and the bees are able to adopt themselves to their own circumstance, and are not dependent upon the apiarist to move the division-board whenever there is a change in the internal condition of a colony.

I will close by saying that out of 120 colonies I have not lost one, and don't expect to. I examined 100 colonies in my cellar, yesterday, and find them as sweet as a rose, and in better condition than I ever had a lot of bees at this time of the year. They have not had a flight since November 1, and they will not need one until they can get pollen and honey. I have kept the temperature between 40 and 50°. They have not consumed over 5 lbs., on the average, yet; some not over 3 lbs. The warmer you can keep them and have them quiet, the less honey they will consume. Those wintered on their summer stands are all right.

Adrian, Mich. A. H. RUSSELL.

For the American Bee Journal.

Bees and Honey in Scott Co., Iowa.

As there has been no report through the JOURNAL, during the past year, from this county, in regard to bees and honey, I will give a few items:

The present winter has proved, so far, the mildest during the 24 years I have resided here. Bees are wintering splendidly. I have not heard of the loss of a single colony yet. In the winter of 1875, I had 32 colonies; it was a mild winter here, lost but one swarm. The winter of 1876-7, I tried to winter 50 colonies, but from the middle of November until the last of January, it froze all the time. I had my bees protected by straw, all around, except in front, also chaff in caps; plenty of honey, yet I had the sad satisfaction of being the owner of but 10 colonies, by April 1. I did not wish to lose so much valuable comb, so I purchased 20 colonies of Mrs. Grimm, of Wis.

Commenced with 30 colonies, increased to 66 and got 1400 lbs. of comb honey, and about 400 lbs. of extracted. The past season was not extra good, but when I get an average of 60 lbs. per colony, I will not grumble; 6 of my Grimm colonies filled a case of 24 frames each; average, 44 to 46 lbs.

In this county, our main honey crop is from white clover; but very little basswood can be found. I have been cultivating alsike, for the past 8 years; find it splendid for the bees, and when sown with timothy makes better hay than red clover; it never has winter-killed with me, while red clover often does.

Now I wish to tell my brother bee-keepers how I got 3 crops from the same piece of land the same year, for the past 8 years.—As soon as I have a piece of grain harvested, I plow and sow to buckwheat—the past season I sowed 10 acres to buckwheat—where I have a good crop of wheat. Owing to dry weather, it did not sprout till the 37th of July; had a yield of 22 bushels per acre, and realized $1 per bushel, by selling the flour. So there is where the third crop comes in. The past fall for buckwheat honey was not a good one, yet my bees gained about 15 lbs. per colony, during buckwheat bloom. This buckwheat honey was nearly all stored in the brood chamber. I have no idea what amount of honey can be gathered from an acre in a good season.—My bees had access to my neighbor's 11 acres of buckwheat, where he harvested a crop of barley; yet, while my bees visited his, other bees came to mine. I believe it will pay farmers, who are bee-men, to try this plan.

I said my bees gained 15 lbs., per colony, during buckwheat bloom; let us say 10 lbs. Now 66 colonies would make 660 lbs., or 66 lbs. per acre. This certainly will pay for sowing to buckwheat, even if we get no buckwheat cakes on a cold winter morning. Having purchased a few colonies at a sale, I now have 70 colonies in good condition, all on their summer stands. GEO. L. GAST.

LeClaire, Iowa.

For the American Bee Journal.

Spring Dwindling, Hives, &c.

I have just returned from my other apiary of 22 colonies; all answered to the roll-call, and are gathering pollen in great abundance. The roll-call at home is 64; 3 having "gone up," by my negligence or oversight. All, thus far, seem to be in good condition. The honey season here will not open till near the 1st of May, and by that time, half, or more of my bees will be shipped off, as is my custom every spring.

SPRING DWINDLING.

Here I would recommend to all who wish to understand the Italian bees and their difference from the native bee, to read again the article in the March No., page 74, by I. P. Wilson. His experience, with the exception of "cellaring," is the same as my own. I have had no experience in "cellaring" bees—always winter on summer stands, and this last winter I have given the strong colonies no other protection than to contract the entrance of the hive; for the weak colonies, quilts were spread over the frames, with the exception of the 3 I neglected, and that died in consequence.

As to safe wintering, I will say this: I can take any number of colonies in Nov., and fix them for winter, in such a manner that I can insure every one to winter safe, no matter what sort of a winter.

It was several years before I could account for the Italians being so weak in March. My first discovery of the cause was as follows: One day in Feb., as I came from the tan yard, with a roll of leather, and my overcoat buttoned tight, for it was cold. Two bees lit on the leather, to rest. They were both Italians, and nearly a quarter of a mile from the apiary; they remained on the roll till I threw it down at the shop door, and were so chilled by that time, as to be unable to fly.

On another occasion, one evening after they had had a fly, I walked out in the apiary, and to my surprise, the fences, tops of hives, &c., were covered with chilled bees, unable to move. I think, on this occasion I lost, at least, bees enough for 2 or 3 colonies. I have seen this repeated several times, but never, as yet, have I caught black bees guilty of the like. If the Italians would only be as careful as the natives, while the weather is too cold, not to venture out, they would come out in the spring stronger than the natives, but as the case stands, they are not more than half or two-thirds as strong as the natives on the first of April. Yet, they recuperate with such rapidity as to surpass them when the honey season has fully opened.

HIVES.

In speaking of the invention of hives, we may well say their "names is legion." I have examined several new patents during the last 6 months, none of which I care to try, even if given to me; but not to injure the sale of any of them, I will name none of them; but will say, the only men who are qualified to invent a hive, that will answer its purpose successfully, are none other than those who have had close experience with bees for 8 or 10 years, at least; and such as have a thorough knowledge of the habits and manipulations of the bee. Yet, how few novices there are in the business a year or two, that do not invent a hive!—This injures the bee business as much as anything. Such novices would do much better to follow, instead of trying to lead the old veterans. How forcibly does the present state of things remind me of the fulfillment of a dream I had a few years ago, while Mr. Clark was editor of the JOURNAL. I wrote the dream and forwarded it for publication, but friend Clark saw fit to drop it into the waste basket—the first I ever wrote that found that destination.—The dream is as fresh in my memory to-day as the day I wrote it; and is now being fulfilled to the letter. I will not give the dream here, but give one single instance, to show its fulfillment: I saw all these hives and box patents, in the shape of different birds, in one large tree, and when a tremendous large gun was fired at them, all that were killed, have lain dead since. The Langstroth hive was wounded in the wing, but her wing healed up and she finally triumphed.

When experienced men look at a new patent, it does not take long to see the faults; but novices, having very little experience, are deceived—buying, not only the right, but the county and state, and finally, in most cases, come to grief. I could name not a few such cases. But I must not be understood as discouraging inventions. I am in favor of them; but there are scores of such inventions never worth patenting, and almost worse than useless. This is the class of articles I object to, and

I would again caution novices to consult the older bee-men, of long experience, before leaping into the dark.

BROOD NEST.

It should never be disturbed. I used to extract brood frames and all; but of late, I have discovered it to be very injurious. If the 6 middle frames of every 10 framed Langstroth hive were let alone, and never disturbed, the colony would be stronger, and winter better on good, ripe honey, and consequently, free from dysentery and other disease. If it was not for finding the queen, and knowing what was wrong with a colony, &c., I would recommend a hive without frames for brood nest. 1800 cubic inches inside, oval at top, to a space of 2 or 3 inches, instead of a flat top. The upper story of a double Langstroth can be placed on top of them. The brood nest being too small to store honey, will force the bees to the top; and that being oval, instead of flat, gives them more rapid access to the top, and concentrates the heat to that point. I shall try a few of them the coming season, but wonder if they are already invented and patented unknown to me.

DIVISION BOARDS.

I read that some one has a patent on division boards. I have been using them since 1866. Did his patent commence previous to that year? R. M. ARGO.

Lowell, Ky., March 7, 1878.

[Certainly not. N. C. Mitchell claims a patent on the use of the Division Board, in connection with "lugs," (*i. e.*, small pieces of iron, for legs), and rubber strips at the sides, &c. A plain Division Board is neither patented nor patentable. His claim covers that combination only. That patent was not issued till March 9, 1875—9 years after friend Argo began to use them.—ED.]

For the American Bee Journal.

Bee-Keeping in Minnesota.

As the bee season is about to open for 1878, perhaps it would be in order to report last season's business. I commenced, a year ago, with one colony, all that I wintered, out of 5. Bought one more of Ch. Dadant & Son, and 3 of I. Ingmundson, (the most successful bee-keeper in Mower county). Two colonies did not swarm, but the other 3 increased my stock to 23. One giving me 7 swarms, and all filled their hives; and between them, over 100 lbs. of surplus. All wintered well, and are strong in bees, brood, and stores now, and hard at work every fine day on piles of fine sawdust, old bits of comb, and coarse flour.—Hundreds of them go a quarter of a mile to sugar barrels and refuse, around grocery stores, working like beavers. Some of my best colonies do not appear to have used 5 lbs. of honey all winter; while others, equally strong and prosperous, have taken 15 to 20 lbs. Who can explain why it is?—They are both strong in bees, not only *apparently* but *certainly*, after *careful* examination.

This is the most singular winter ever known in Minnesota. Only three or four times has the murcury run down below zero, and only once did it reach 11° below.

Bees would have wintered finely on their summer stands, but who supposed they would plow, every month in the year, as farmers have done here.

I buried my bees, by digging a pit, 3 feet deep; with board floor, sides and roof; filling up all spaces between hives with dry, oat straw, and putting about 6 inches deep over hive, leaving a space above for air to circulate; put in 2 stove-pipes for ventilators, one extending below the bottom of the floor, and the other just reaching through the roof, for foul air to escape. Covered the roof with 6 inches of straw, 6 inches of earth, another coat of straw, and about 4 inches of earth to finish off; regulating the temperature with dampers in ventilators, and keeping a thermometer in the escape ventilator. I visited my bees as regular as the day came, and listened for their cheerful hum very anxiously, during the warm, foggy weather of December. At last, the temperature began to raise, and all the ventilation I could give them was of no avail; it run up to 70°, and it seemed as though they were swarming below. Opened out the pit and gave them air, cooled down to 48°, and covered up again, where they remained quiet until March first, when I began to take out 6 a day, until all were out. Have not a mouldy comb or hive in the lot.—They were buried 114 days.

I think I have found the secret of safely wintering. Thanks to very valuable suggestions from I. Ingmundson, Esq., and by using a little common sense, with considerable labor. But where is the true bee culturist who does not love to work among his beautiful pets! I can sit and watch my little laborers for hours at a time, and learn something of them every day, helping a poor, loaded, tired worker into his home, when he drops exhausted, a few inches from the entrance, unable to rise on the wing again; and a bee does not like to crawl far, preferring to light at his own door, close by the sentinels, who stand there to receive the password.

I figure up my bee experience as follows, to date:

Total cash outlay for bees, hives, guide-comb, JOURNAL, extractor, Bingham smoker, cans and the whole paraphernalia	$117 45
I have 23 Italian colonies, well worth $12.00 each, here, but we will call them @ $10.00	$230 00
Extractor, cans, &c., on hand	20 00
Eight extra hives " complete	8 00
Comb honey, 100 lbs. "	20 00
Honey sold, cash	47 00
One queen sold	2 50
Transferring, and hive furnished a beginner	2 50
Total	330 00
Less total outlay	117 45
Total net profit	212 55

This makes a very satisfactory showing, and I think demonstrates that bee-keeping will pay, with "good luck." But don't rob these faithful servants so that they must starve before another spring! Leave them *enough*, or *more* than enough; it is not lost, and it will encourage them to build up

strong, early in the spring, give earlier swarms, and more surplus. This is my theory.

In conclusion, I would say, should this article be the means of starting some one in the business, they should bear in mind that about 9 out of 10, who attempt bee raising, fail, for want of "luck," (*i. e.* study and attention), and if you have not patience, and some time to see to them, don't go into it, but as the saying goes, leave it for "those who are too lazy for anything else but keeping bees," which, I think is the reason of so many failing in honey producing.

I want Italians, only. I see by the JOURNAL that a few prefer the blacks. I have tried both, and do not want any more bees that furnish a home and food for moth worms, to their own utter destruction. I find no difficulty in getting Italians to work in boxes. It is not their nature to be idle when they have plenty of room to store in, whether it is in boxes, hives, frames or even glass jars and tumblers. Give them a little nice comb for a starter—that is my method of coaxing them.

I send you a shadow of myself, for your collection, dear Editor.

Success to the JOURNAL. Long may it flourish. C. F. GREENING.

St. Paul, Minn., March 8, 1878.

[Thanks, friend Greening, for the shadow. It is placed up in our sanctum—looking over our desk, where we toil every day in the interest of all who love the honey bee.—ED.]

For the American Bee Journal.

"Dadant vs. Himself."—Answer.

In the A. B. J. for April, George Thompson wants to know when and why I have changed my views on the purity of bees in Italy. Here is my answer:

Although I had not received a single impure queen from Italy, I had heard so many complaints about the purity of imported queens, that when I started for Italy, I was altogether persuaded that the Italian race was not pure.

On my arrival at Milan, I narrated to L. Sartori, that such was my impression. He said that Lombardy was the home of the Italian bee, and that nowhere in Italy were the bees as pure as at Milan. Of course, my letters from that place were imbued with this idea. Soon after, I learned that Sartori was only a queen dealer, and bought queens from every part of Italy—from Piedmont to Venetia; from the Alps to Tuscany. Then I reflected that Mona, a queen dealer too, who had journied all over Italy, had no interest in writing that all the bees from the Alps to Brindisi are pure; but, that on the contrary, Sartori was interested in making me believe that there were impure bees outside of Lombardy. I saw, also, in the reports of the Italian bee journal, *L'Apiculture*, that there were queen dealers, in parts where Sartori had told me that there were impure bees. I received good queens from those parts; then I concluded that Mona was right, and that I had misplaced my confidence in believing the assertions of Sartori.

To give my readers the rate of confidence to which this dealer is entitled, I will quote a part of his advertisement that is in the British Bee Journal. He writes, that his "sole object in selling queens, &c., is to forward the interests of bee-culture, *without regard to his own.*" Yet, if we look at his prices, we find that his goods are advertised at 25 per cent. more than the rates of his competitors.

I am just perusing the article by Mr. Geo. Thompson, on the improvement of the Italian bee, page 127, April number of 1877. He quotes several testimonies, to sustain his idea that the bees of Italy are not pure. Mr. Deus, of Dusseldorff, found the orange colored bees at Genoa, and the black bees at Nizza; and further, another writer says: "We were surprised, on our arrival at Nizza, to find only the common bee there."

For an answer, I beg my contradictor to open a map of Italy. He will see that Nizza, or Nice, is outside of Italy, separated from this kingdom by the Alps. Nice is a French city, which belonged to Italy some 20 years ago, although French by origin and language.

My contradictor has now to rely on Varro, Columelle, Virgil, and Spinola, all writers of another era, to prove his assertion that the Italian bees are a hybrid race.

Hamilton, Ill. CH. DADANT.

For the American Bee Journal.

Marketing Honey.

During the past 20 years I have raised, bought and sold more or less honey each year, and I know what the trade demands. I was among the first, if not *the* first to introduce small packages of honey in the Boston market, and to advocate the use of small boxes. By consulting the back numbers of the JOURNAL, perhaps it may be found that I was the only person to recommend the use of 3 lb. caps, some 12 years ago. Now the trade demands even smaller packages. Sections that hold 1 and 2 lbs. of honey are as large as are needed; in fact, I hardly think that larger boxes will ever be called for again.

Last fall I bought and sold 10,000 lbs. of honey. It was of an excellent quality, and mostly in 4 lb. boxes. I could not get any in 1 and 2 lb. boxes. I have no doubt that I could have sold more, and at much better prices, had it been stored in smaller boxes.

The crates contained too much honey, and one man could not handle them alone. Not over 30 lbs. should be put in one crate, and any amount between 10 and 30 lbs. will not be far out of the way.

The smallest crates were sold first. Not only do small crates sell more rapidly, but the danger of breaking and damaging the honey in handling is greatly increased by using large crates. It is enough to make one's blood boil, to watch the loading or unloading of a lot of honey. They will put a crate of honey on the "truck" when it can be handled much easier and to better advantage without doing so.

I had a lot of honey shipped to Boston,

and was not there when it came in, as it was unloaded in the night, and a worse lot of honey no one ever beheld. There was one ton of it, and all but about 500 lbs. were badly broken.

The bee-keeper who puts his honey up in accordance with the demands of the market will be sure of a good price and quick sale; but the one who uses large, coarse boxes and crates, and a large amount of wood and glass will come to grief. H. ALLEY.

Wenham, Mass.

For the American Bee Journal.

Bee Items.

The past winter was one of the most favorable for bees in many years. I wintered 49 colonies on their summer stands, and did not lose any. All but six of them were at Newcastle, and I did not see them from the 2d of January until the 9th of April. At the latter date I found one colony starving, at least three-fourths of the bees being dead, and the rest barely alive. I fed them immediately and saved a good queen and enough bees to form a moderately strong nucleus. Expecting to remain at Logansport for at least one year more, I moved my bees to this place; the removal by rail, a distance of 80 miles, being effected without accident or loss.

THE SPRING HARVEST.

The show of fruit blossoms, peach, cherry and apple, is simply immense The trees could not be fuller than they are. The peach and cherry trees, at the present date, are passing out of blossom, and the apple trees are just in their glory. From the time the fruit blossoms begin to make their appearance, until this time, the weather has been almost uninterruptedly fine, and the secretion of honey has been very large.

RED BUD OR "JUDAS TREE."

I have noticed in the bee journals, for some months past, inquiries and statements concerning this tree as a honey producer. I have known for years that bees worked on it, but I had not thought of it as especially valuable. At Newcastle, the only place where I have given much attention to bee-keeping are very few trees of that kind, not enough to make it practically of any value. Here it abounds. Biddle's Island, an island in the Wabash river, within the city limits, has a large number of the trees, and there are many of them in other localities within reach of my bees. The yield of honey from them is really astonishing. The bees that have visited the reb-bud are readily distinguishable from others by having more or less of the red pollen adhering to them. I have never seen bees carry larger loads of honey from any source than they do from this. Some of my colonies are storing surplus honey, and in a few days I expect to extract some red-bud and fruit-blossom honey.

ROBBING.

I have discovered, within the last 24 hours, a case of robbing in which the stock being robbed did not seem to be able to distinguish the robbers from the bees of their own hive. The honey was being carried away as fast as a strong stock could carry it, the robbed stock being also strong; and the bees whose stores were being appropriated were working away as if there was nothing wrong. The transposition of the hives (the robbing and the robbed), this morning, has put an end to the mischief. I have observed a number of cases of the same kind before, and I have no doubt that they are more common than is generally supposed. It seems strange that bees should commit robbery when honey is so abundant everywhere; and stranger still, that while the bees that were suffering the loss would seize strangers from other hives, they would permit the bees of that particular colony to carry away their stores without molestation. The only explanation I can give is, that by some means the two colonies have acquired the same scent. M. MAHIN.

Logansport, Ind., April 22, 1878.

For the American Bee Journal.

"On Novice."

We very much dislike to occupy the valuable space of that best of all bee journals—the old AMERICAN—with so poor a subject, but force of circumstances leave us no alternative. We shall endeavor to make the disagreeable task as brief as possible, trusting to a kind Providence to deliver us from a like dilemma in future.

In December last we sent a card to the A. B. J. saying that we should give its readers a few choice extracts from the history of "that $50 damages." Several causes have conspired to delay the fulfillment of that promise—chief among them being the *quasi* promises of A. I. Root.

Under date of Dec. 5, 1877, Novice wrote us an apologetical letter for his previous treatment of us, and in conclusion said: "The matter of the foundation is, so far as I am concerned, perfectly satisfactory." In view of what he had published at the time, we thought he ought to say as much in "*Gleanings*," and wrote him to that effect. In his reply to our suggestion, he offered to leave the whole matter out to a third party for arbitration. But as Novice had expressed himself as being *perfectly satisfied*, we didn't see anything to arbitrate, as we only asked him to say publicly what he had admitted to us, and we told him as much. He then wrote us another of his *peculiar* letters, saying that he was "in a quandary;" that he felt that "something should be said" to us, but that he didn't know what to say, etc. Further on, in the same letter, he said, "Although it was right to give it when you asked that amount (the $50 damages), I cannot for a moment think it was right for you to take it. I can conceive of no explanation that would make it, nor can the people." We thought it a *little funny* that if it was so "very naughty" for us to take the money, *how* it could be so *proper and right* for him to give it. Perhaps he saw the muddle he was getting himself in as he gave this reason for his action; "I gave my money for the sake of peace and good will." It occurs to us, however, that the many bee-keepers whose rights and feelings he has infringed

with a ruthless hand, would require a more satisfactory reason.

Becoming weary of a protracted correspondence about a matter which Novice admitted was perfectly satisfactory to himself, and yet which he failed to make so to us, we gave him this ultimatum—either make a satisfactory explanation to the bee-keeping world, or we should do it for him. His reply was characteristic of the man. "I can see no reason why the matter should be given to the public at all," he wrote, and then followed his usual religious exhortation. Thus it will be seen that our efforts to attain an amicable adjustment were a total failure. A dozen lines from the pen of this man, who unceasingly parades love to man and devotion to God, would have settled the matter for all time. But he saw fit to withhold them, even after admitting that something of the kind was due me.

In view of all that has been said, we give the readers of the A. B. J. a leaf from the history of this matter. On July 20, 1876, we shipped A. I. Root some wax to be made into comb foundation. We ordered it made into sheets 12x18 inches, and 6 square feet to the pound. We weighed the wax in the office of the Am. Ex. Co. here, but did not give weight in writing to Novice, as we wished to see if our weight tallied with his. Well, it did—within *ten pounds*. Novice was to have one-half of wax for making it, but he said it was "extra nice," so would send us a little more than one-half of the foundation. We at once notified him of the *error* in weight of wax, and inclosed Ex. receipt, showing weight. This brought a card from Novice saying *somebody* had "made a mistake of 10 lbs., which we exceedingly regret." He afterwards paid us for that amount.

In the meantime, our 24 lbs. of comb foundation came; but instead of being 6 square feet to the pound, as we had ordered it, the greater portion of it was made less than 4 feet to the pound. Having had only a limited experience with the comb foundation, we supposed Novice's experience had induced him to take the responsibility of making thick foundation. The glowing reports which were being constantly published in *Gleanings* had prepared us for experimenting extensively with the foundation, never dreaming that a failure was possible. But it *was* possible, all the same, and cost us more than $200. In looking back over the past, and knowing what we do now, we would not have had it done, even for that amount. We wrote Novice about the matter, giving a detailed account of our experience, and left him to do as he pleased about the matter of indemnity. He replied that as we were "the dissatisfied party, we must certainly make out our own bill for damages." On the following day, (Sept. 9, 1876), in remitting for the 10 lbs. of wax, (above referred to), he said: "We thought best to pay you for this, leaving the bill for damages in making of the foundation, a separate item, at your will." This looked to us as though Novice intended to do what was right in the matter; so we wrote him that if he wished to help us bear the loss, for which he alone was responsible, he might send us $50. Knowing full well, however, how often he had *crawled* out of tight places before, we closed our letter with these words: "In conclusion I will only say, that if you can pay the $50 *cheerfully*, you may do so; but rather than have any hard feelings in the matter, I would lose all." This brought an individual check on the Medina bank for $50, and one of the funniest letters we ever received.—He went on to tell how hard it was to spare the money, and wanted to know if we wouldn't return it. Saying that if we didn't, he could not go to the Centennial, in Philadelphia, &c., &c. The next number of *Gleanings*, however, said that Novice *did go* to the Centennial, and took his "better half" along also.

On October 5, 1876, we wrote Novice a letter, giving in detail the losses we had sustained by using the thick foundation. The following is an extract: "Now, if you wish me to bear this loss wholly myself, I can do so. I *cannot* return a *portion* of the $50, but I can return it *all*." But we received no demand for the money, but did receive a most bitter and vindictive letter from Novice, (dated Oct. 10, 1876), charging us with "willful falsehood and fraud," and calling us pet names generally.

HERBERT A. BURCH.

South Haven, Mich., April 18, 1878.

Kansas Bee Pasturage.

For 2 years we have had very fair seasons for our bees, with the exception of the months of June and July. Red bud briers, fruit trees, &c., in May. In June, bees dwindle; there being nothing for them to forage on. In July they barely live; at the end of the latter month they are not as strong as at the end of May. I was not aware that white clover would succeed in this State, until last year. I was at Leavenworth last fall, and saw there an abundance of it, everywhere in that town and vicinity. For 20 miles west, towards Lawrence, I saw thousands of acres of it, as fine as any I ever saw in the State of New York, also 20 miles south to Kansas City, Mo. I sowed about 2 ounces of seed on the prairie sod, last season, where the ground had not been broken. I could not have wished it to take better. White clover will, in a very short time, be a grand success here.—During the months of August and September hart's-ease affords abundance of forage for the bees. In fact, it is worth all the other plants we have in this region. Every cultivated field is full of it. There is plenty of golden rod here, but bees scarcely touch it, when, at the same time, hart's-ease is swarming with bees, working with all their might. The report of the National Bee-keepers' Association, last fall, was worth twice the year's subscription. It was, by far, the best report that I have ever read. There was no foolishness in it, and that is considerable to say for any such public proceedings. No man who has even but one colony of bees can afford to do without a *good* bee journal. I read more than one, but recommend all my friends to take the AMERICAN BEE JOURNAL.

Muscotah, Kan. H. S. HEATH, M.D.

Conventions.

Parasites of the Honey Bee.

READ BEFORE THE N. E. CONVENTION.

A year ago this winter, while examining the dust which is found upon the bottom board, directly under the cluster of bees, in every hive that is wintering well, I discovered several kinds of minute insects. I was making this examination with a strong magnifying glass, for the purpose of satisfying myself more fully in regard to the theory offered by Mr. M. Quinby, in 1874, as to the feces of the bees being voided in a dry state. And here let me say, though foreign to the present topic, that I am fully persuaded of the correctness of this theory, and the importance of the discovery is yet to be recognized as second to none in its bearing upon the requirements for successful wintering.

During both the past and present winters, I have at different times examined hives in some of the leading apiaries of our State, and in every instance have found some varieties of these insects or parasites, to more or less extent. I have so far noticed 6 different forms; whether all distinct varieties or not, I am unable to say. One kind I have hardly been able to retain possession of long enough to determine much about it. It is of a bluish color, and about as fixed in its habits as a flea. When I thought I had him he was generally not there.

It has long been claimed by our best writers, on the subject of wintering bees, that one of the prime requisites for success was perfect quiet. It has also been noticed by many that while some swarms remained very quiet, others could be heard buzzing, and would be constantly uneasy. The fact that some were quiet proves that the uneasiness was not due to any external disturbance. It has often been a subject of much perplexity to me why these different conditions should exist.

Some writers have advised setting such restless swarms upon their summer stands for a purifying flight, and this may be desirable, inasmuch as they have necessarily been stimulated to a large consumption of food by this undue excitement; but the original cause of this disturbance has not yet been understood.

I have given the subject my particular attention, and have found such swarms clearing the dust from the bottom boards, and upon examining this dust as they had thrown it from the entrance, I discovered these parasites in large numbers that had been ejected from the hive. I find the Italians much more liable to be disturbed by them than the natives. Their tendency to defend themselves is here manifest, and they are more easily aroused to action.—This may account for the cases that are cited where the natives winter better than the Italians.

Another proof that the worrying of swarms while in winter quarters is occasioned by these pests, is the fact that the bees gradually leave the hive and fall upon the cellar bottom; and when set upon their summer stands, weak in bees, will be found to be throwing these parasites in large numbers from the hive. They are found in all parts of the hive where the bees can not reach them. Where the mat hugs closely to the top of the frame, they will often be found between it and the frame.

It has often been noticed that during the spring and summer months, young bees are frequently thrown from the cells that have from some cause died before maturing.—Cases have been reported where they have been so removed in large numbers. It seems very probable that these may have been destroyed by the parasite.

I find that some of them frequent the hive, seemingly for honey alone, others seem to be found only in the dust under the cluster, while yet others appear to feed upon the bees, especially the young and immature bees that are thrown from the combs. I have, as yet, been unable to determine whether or not they destroy the bee in the cell, and are thrown with it to the bottom board. It has often been noticed that during the spring and summer months young bees are often thrown from the cells, that have, through some cause, been destroyed before maturing. Cases have been reported where they have been so removed in large numbers. It seems very reasonable that these may have been destroyed by parasites.

It has been demonstrated by the experience of many, in wintering, that when the ventilating slide in the bottom board is left open, the bees, in most cases, cluster lower, and directly over the opening; and are found to keep more quiet. This method has been recommended because of the evidently better results. I had supposed that the advantage lay in the fact that they were more certain of their freedom from the opening being so near, and I yet believe this to be a condition which favors this result. It occurs to me, however, since my acquaintance with these parasites, that they were also more easily removed from the hive when it was thus arranged. I have examined the dust which dropped from the cluster through this opening, lodging upon the top of the hive, beneath when in winter quarters, and in nearly every case I find these insects.

It has been found to conduce to successful wintering, to place a rim under each hive, raising it a short distance from the bottom board. In this case, the insects in the dust would be farther from the cluster of bees and less likely to annoy them.

It is quite probable that at least some of these varieties came to us with the introduction of the Italians, and while their presence is evidently harmful to us, I am very much inclined to the belief that in some form, they have, in many cases, removed the greatest curse to American bee-keepers, viz: foul brood. It has ever been a mystery how this plague was so suddenly overcome, and I can in no way account for it so satisfactorily as that it was caused by a parasite feeding upon the brood in a certain stage; and that its destroyer, in the form of another parasite, has over-

taken it in turn. This is corroborated by our experience with cabbage and currant worms, potato bugs and other pests, which in a few seasons of unchecked devastation, are overtaken by their enemies, and their ravages cut short, in a sensible degree.

To what extent these pests are to affect our pursuits, is yet to be determined. If this paper shall induce others to assist in investigating the subject, and report the results for the advancement of our science, the end for which it is intended will be accomplished. L. C. ROOT.

How to Prevent Swarming.

READ BEFORE THE VT. ASSOCIATION.

It is well known that bees that do not swarm will store much more honey in boxes than they would if they threw off a swarm or two, for the reason that they are so reduced in numbers that it takes nearly all that the few remaining workers can do to furnish honey enough to feed the young bees that are hatching so fast at that season of the year. Should they gather more than the young consume, they have plenty of room in the brood comb, made vacant by the hatching bees, to store all the surplus—for a time at least, —when if they had not swarmed the queen would quickly deposit eggs in the cells made vacant by the hatching bees; therefore they would then be obliged to store their honey in boxes. It will readily be seen, then, that it is very important for the honey *producer* that he should prevent swarming as much as possible. Now how can this be done? It has always seemed to me like working against nature to try to prevent swarming. But then I have noticed that some colonies do not swarm, and they are the ones that make the most box-honey, and at the same time everything in the brood chamber seem to be in good order. Now if they were not working contrary to nature, why not other colonies be prevented from swarming if they are placed in the same condition? In the first place we should breed from non-swarming strains. I think this is a very essential point; in fact it almost wholly depends upon the queen, at least I am satisfied that it does.

I mentioned in my paper last May of having a strain of unswarming queens. I experimented a great deal last season with these queens and not one of them swarmed. and they stored more in boxes than any other strain I had, and I had three others.

These three strains did all the swarming. One strain in particular wanted to swarm all the time in spite of all I could do. I thought these must have been aware of the late Horace Greeley's advice to young men to emigrate West. But in this case it was the old lady that wished to emigrate.

Therefore, I think I can safely say that there is a great difference in strains of bees about swarming. Why should there not be as much difference in bees as there are in different families of hens? We know that there are certain strains of hens whose propensities for setting are much less than others. I think, therefore, if we breed our queens properly this point can be attained.

I will tell you how I managed last season. I do not mention it with any idea of boasting, as it was wholly an accident with me. I was working for something else, when I noticed. later in the season, that my work paid me two-fold. I was not working to prevent swarming. Really if any one had asked me at the time if I was trying to prevent swarming, I should have told them I was not,—that it would induce them to swarm early. Nor do I know that it *will* prevent swarming every time, but I think with good queens it will be a great help.

My object in writing this is to have others try it another season and report the result. It is this. In the spring as soon as it is settled weather and the colonies will bear it, say the last half of May, when young bees are hatching fast and the queens are laying abundantly, go to every hive and examine the condition of each, and all that are in condition to admit of it, spread the brood—that is, separate the combs from the center of the brood nest and insert an empty comb in the space made vacant by the separation of the brood. Great care should be taken in this work not to over do it, as a little too much spreading of the brood, especially in cold weather, would be very injurious. If they have no honey near the brood-nest a comb containing honey and pollen should be placed near them so that they will not be obliged to travel over cold combs in order to reach their stores. This should be done as often as the condition of the colony and the weather will permit. The reason for so doing is two-fold. First by so doing the queen is not obliged to go outside of the cluster to find empty comb to deposit her eggs in. In this way we can help our bees a great deal. and they will increase much faster than they would if we left them alone entirely. This should be repeated as often as once or twice a week if the weather is warm and pollen is coming in abundantly. Second, by managing in this way we will have very strong swarms early, which is very essential to secure a large crop of honey.

Now why should this mode of management prevent swarming? I reason thus: By having every comb in the hive filled with brood early.—before the honey season commences, as well as before the bees have the swarming fever, as it is called. There will be hundreds of young bees hatching daily, consequently there will be hundreds of cells vacated daily. Therefore making room for the queen to deposit eggs, and keeping her busy all the time they will have no occasion for swarming. You will perhaps say that the hive willsoon become so crowded by this abundant hatching that the bees will be obliged to swarm for want of room. This would be the case, perhaps, with the careless bee-keeper. But if on the other hand he has been on the alert, up and doing, with a thorough knowledge of the inside of his hives and the requirements thereof, he will have had his boxes on before this, thus making room for the surplus bees and leaving the brood nest with no more bees than is required there. This should be done before they get the swarming fever (that is box-room should be given

them), because after they once get the swarming fever no amount of room would prevent their swarming.

Now in case the combs should become too full of brood, or if the brood should not hatch fast enough to give the queens sufficient room, a card of eggs and larvæ, can be taken out and used in other hives that need it and an empty comb put in place of it, thus giving the queen more room. I say a card of eggs and larvæ, not a card of hatching brood, as it has been customary with me, and, as I know, with many others, because by leaving the hatching brood they are continually making room for the queen to lay in. None of my colonies, that were managed in this way last year, swarmed or offered to swarm.

In conclusion, therefore, I will say, rear your queens from the best strains and give them room in proportion to their productiveness. By so doing I *think* swarming can be prevented and a large crop of honey secured when the season favors.

A. E. MANUM.

North-Western Ohio Convention.

The Association met at Napoleon, O., April 4. A. Fahnestock, of Toledo, in the Chair. The Chair called for essays on the different subjects announced at the previous meeting.

Mr. Williams had prepared no essay—feared his views, if given in full, might subject him to much criticism, as most all bee-keepers have their own standard of the purity and method of rearing Italian queens, and thought that bee-keepers would generally meet with less disappoiniment if they would procure imported Italian queens of some responsible or well-known importer, and rear queens for their own use.

Mr. Clinton spoke on the subjects of introducing queens, uniting stocks, exchanging places of stocks, to strengthen the weaker ones, &c. To introduce a queen, he would spray the queenless colony as well as the queen to be introduced with highly scented, sweetened water, at or near sundown, and turn the queen loose among the bees. To unite a queenless colony with one having a queen, he would place the colony having the queen in the lower story of a hive, and the one to be united in the upper story and placed directly over the other, at or after sundown, as bees never fight at that time of day; all will unite peaceably by the next morning. Had shifted weak colonies into places occupied by strong colonies, thereby strengthening the weaker colonies, but did not think it safe, except during a good flow of honey.

A short essay on honey plants was read by Mr. Kepler, in which the writer claimed that some plants secreted honey of such inferior quality that bees will not winter on it, and advised bee-keepers to reject such honey for wintering purposes.

Mr. Rasey said he did not believe God created bees with instincts that would cause them to gather unwholesome honey.

Mr. Williams.—It is well known that bees gather cider from half-rotten, bruised and fermenting apples, in seasons of scarcity, and that bees never winter well when allowed to go into winter quarters with such stores.

A. Fahnestock read address on marketing honey which will be sent for next Journal.

Moved that a committee be appointed to examine and prepare a report on apiarian implements, which was carried. The Chair appointed Capt. Williams, R. Rakestraw and D. Kepler a committee.

While the committee were examining and preparing their report, a communication was read from D. Fink, Esq., of Arcade farms, commendatory of bee-culture as an elevating and important pursuit.

The report of the committee on apiarian implements was read by Mr. Williams, as follows:

Your committee, after carefully examining the implements of the apiary on exhibition, beg leave to report as follows:

1. We believe the machine invented by W. D. Parker, of Defiance, O., for cutting and dovetailing, and setting up Sectional Honey Boxes, to be a valuable aid to the bee-keeper, making a box equal, if not superior to any other, and greatly cheapening their manufacture.

2. That the honey extractor, made by Mr. Everett, of Toledo, to be equal, if not superior to any machine now before the bee-keeping public, and sold at little more than half the price of any other good machine.

3. Root's Shipping Crate is worthy of adoption, and his wood and metal cornered frames, as well as his Shipping Cages, are most useful of their kinds.

W. F. WILLIAMS,
K. RAKESTRAW,
DAVID KEPLER. } *Com.*

Moved by Mr. Williams that a vote of thanks be accorded Mr. Fahnestock for furnishing the Society, at his own expense, the many apiarian implements exhibited by him. Carried.

The Association proceeded to elect its officers for the ensuing year. On motion, the rules were suspended, and the following were elected by acclamation:

President.—W. F. Williams.
Vice President.—A. Fahnestock.
Treasurer.—T. B. Hayes.
Secretary.—Daniel Kepler.
Cor. Secretary.—S. L. Curtis.

Moved by Mr. Williams that the Secretary and the Corresponding Secretary be instructed to make out a synoptical report, especially concerning the new machine for making section boxes and the new extractor on exhibition, and forward the same for publication. The organization then adjourned to meet at Liberty Center on the 2nd Thursday in July.

S. L. CURTIS, *Sec'y.*

Bremer County (Iowa) Convention.

At a bee-keepers' meeting held at Waverly, Saturday, March 16, Thomas Lashbrook in the chair—after some discussion upon the subject of continuing the organization, it was unanimously decided tn the affirmative.

Accordingly the following officers were elected for the ensuing year; Chas. McCormack, Chairman; Thos. Lashbrook, Vice Chairman; David Clark, Sec'y; and D. H. Bush, Treasurer.

Charles McCormack, Thomas Lashbrook and David Clark, were appointed a committee to draft a constitution and by-laws, to be submitted at the next meeting, to be hetd the last Saturday in May.

It was decided to have three regular annual meetings as follows: Last Saturday in Feb., last Saturday in May, and last Saturday in October,

Mr. McCormack gave some useful hints upon the subject of bee-hives, stating that he used the "Gallop Hive," which he thinks possesses some advantages over others. That by the use of this hive in what he called an extensive form, weak swarms could be thrown together and save them. The past few years have demonstrated the fact that "Bee-keeping" can be made profitable in this part of Iowa.

Meeting adjourned to last Saturday in May, to which meeting are all interested in this subject are cordially invited to be present.

Michigan Convention.

The semi-annual meeting of the Michigan Bee-keepers' Association convened at East Saginaw, April 10.

President A. B. Cheney, of Sparta Center, called the meeting to order, and read a letter from the Secretary, W. L. Porter, sending in his resignation, on account of ill health. Prof. Cook nominated Hon. Conrad Fey, of East Saginaw, who was unanimously elected to fill the vacancy. Prof. A. J. Cook, Dr. L. C. Whiting and T. F. Bingham were appointed a committee of arrangements. While the committee was out Secretary Fey introduced Mayor Thomson, who briefly addressed and welcomed the Association to the Valley.

BURYING BEES IN WINTER.

Prof. Cook said that at the Agricultural College some colonies of bees had been destroyed by mice, and he would advise means to prevent mice from getting at the hives. He recommended protecting the openings with perforated tin; said he thought well of burying bees, leaving an opening at the top filled with straw for ventilation. They should be buried in sand with good draining. It is not an expensive way of protection. He had tried it several seasons, and found that they consumed less honey than those that were not protected.

T. F. Bingham said the main thing was the depth at which they were buried, and thought they should be placed entirely under the ground, so the temperature should be as uniform as possible during the whole winter.

Mr. Fey said he had kept bees since he was a boy, and in only one or two instances had he been troubled with mice, and he thought the weather had much to do with wintering. Some seasons they would do better buried, and some they would do better above ground. He had built a bee house. One winter he lost some 90 colonies in his house, but he thought the cause was damp, wet weather. He thought ventilation had more to do with keeping bees than most people supposed.

Mr. Hetherington said he had no trouble with mice; thought it was impracticable to bury bees here in the Valley—the ground being so level. He packed with straw, and had good success, losing very few. Sometimes he had covered with snow when it was deep; had some colonies dwindle that were kept in the cellar, and usually did not do well when housed in cellars or bee houses.

Dr. Whiting said that if bees were kept dry and had good food, they would take care of themselves, whether it was warm or cold, and give examples where they had wintered well when they were blocked up 1 or 2 inches above the board, and especially in cold weather; also in houses and in cellars, and packed in straw, and the first had wintered the best of all.

T. F. Bingham said he built a house with lumber, filled with hay, well packed; also packed under and over the hives with the same material, having space for his bees to come out, and had been very successful with his bees the past winter, but the weather had been so warm that he did not consider it a fair test.

J. P. Allison said his bees were in an open shed, about 20 inches from the ground, and he spread some hay in front of them on the snow. When the bees came out, on warm days, they fell on the hay, and would get up and go back. He gave them plenty of air. He lost 16 colonies the winter after the fires of 1871, but thought it was on account of the fires in the fall and not the cold weather.

Mr. Walter had buried in snow and lost most of them when only partially buried, but when wholly buried they had wintered safely.

Peter Leasia, of Bridgeport, said he had lost several colonies when there was plenty of honey left, and could see no reason, except it was for want of place to breed; thought they wanted plenty of air, and if well ventilated would winter well in all ordinary seasons.

President Chapin said he had built a house with double walls, filled with sawdust, and had lost from 10 to 25 per cent., but could not say it was the house, as there was a cider mill close by, and it might be the effects of that. Had tried open air one winter and lost all he had; was now trying the cellar, and thought well of it, so far; but could not tell how long it would be successful. He thought to winter bees successfully, first, we should have a perfectly dry place; and, second, he thought if ventilation was given, there would be no trouble.

Prof. Cook said that sometimes bees may gather too much honey in the fall and not leave room for brood, as he had reason to know, especially when the season was propitious.

The President then appointed the following committee on bee apparatus: Prof. A. J. Cook, O. J. Hetherington and Byron Walker.

HOW SHALL WE INCREASE OUR COLONIES?

Dr. Whiting.—The process I have adopted is to get queens fertilized and laying, then transfer combs from old hives to an empty one and fill up with brood, bees and queen, and change their location, thus preventing swarming, and thus keep on increasing.

Mr. Walker agreed with the Doctor.

Prof. Cook does not believe in following

the old style, but follows his own way, and to prevent swarming, clips the wings of the queen; then, if the swarm issues, catch the queen, put a new hive in the place of the old one, and when the swarm returns they will enter the hive. Then put the queen in and they are all right.

President Cheney was of the opinion that to increase stocks, the cheapest way would be to purchase colonies in common box hives and transfer them into the movable comb hives. This would be cheaper than to raise queens.

Mr. Bingham has a novel way of increasing. When the bees have filled the hive, place an empty set of combs above. Being all prepared for eggs, the queen then enters the above, and will be laying her eggs in a short time, and swarms his bees about 3 days before a heavy run of honey occurs.—After this, when all the combs are full of brood and honey, take off the top and move to some new place, and thus make two swarms; keeping on increasing, following the same rule with all others.

ADVANTAGES OF COMB FOUNDATION.

Mr. Bingham read an article from the BEE JOURNAL of May, 1876, wherein he opposed strongly the comb foundation, claiming that the natural comb gives the honey a good flavor, which comb foundation will not.

Dr. Whiting favored the use of comb foundation for brood combs, but not for surplus honey.

President Cheney favored the use of comb foundation for brood combs.

Mr. Hetherington favored comb foundation, claiming that bees would get a better start, and the queen would lay eggs sooner, but does not favor its use for surplus honey.

Prof. Cook offers the following, which was adopted:

Resolved, That while we recognize the great value of comb foundation for the use in the brood chamber and strongly recommend such use, we as stoutly disclaim against its use in boxes or sections.

The committee appointed on statistics for honey production for the year 1878 reported as follows:

Your committee appointed to recommend some plan for obtaining statistics relating to the production of honey in the State of Michigan during the present year, would respectfully recommend that there be a committee appointed, who shall, during the present session, prepare a circular letter, containing a succinct statement of the object desired, and also such questions as will elicit the desired information; that the secretary be requested to transmit a copy of this circular letter to every bee-keeper in the State, whose address he can secure, and request that the answers be filled and returned to him; (this should be done soon after the honey harvest), the returns to be properly abstracted by the Secretary and submitted to the Association at the next annual meeting. The committee on circular were the President and Secretary.

The above was received and adopted.

THE EXTRACTOR.

Mr. Bingham said the extractor was for separating the honey from the comb, that the latter might be used again, saving the bees much hard labor, also leaving the honey much nicer for market than the old way of straining honey.

Mr. Whiting only used the extractor to make room for brood.

Prof. Cook preferred the extractor to be all metal, and as light as possible, on account of cleanliness; would extract all the season if he could get 12½ cts. per lb., rather than produce comb honey. He would not leave too much honey in the fall for the use of the bees during the winter, but would rather sell it; would extract before the bees evaporate it; it is just as healthy as when thick, as he had had ample chance to test it at the College with the students.

O. J. Hetherington agreed with Prof. Cook; would rather use wire, half an inch apart than wire cloth; had no trouble with regard to injuring the young brood.

Dr. Whiting used an extractor with space for 4 combs; could extract 4 combs as fast as 2; liked large cans with large space under the cylinder.

Prof. Cook had observed the effect on the young larvæ, and had seen no injurious effects with the extractor, if properly used.

Prof. Chapin said he had used several kinds of extractors; liked large space under the cylinder; liked Mr. Everett's on this account; took some exception to Prof. Cook's remarks about thin or ripened honey. Would rather have bees finish their work, and then would extract and sell all, if 12½ cts. per pound could be obtained. We should try and create a demand for this product, especially for health, if nothing else.

Mr. Bingham said the extractor is the most useful thing in the apiary; without regard to price, thought it indispensable.

Prof. Cook would not sell thin honey, but would extract it while thin and put in a dry, warm room to evaporate and properly ripen.

Mr. Walker agreed with the President in regard to thin honey; thought there was danger in putting poor honey on the market, and there was very little difference in the cost.

Mr. Bingham gave Mr. Langstroth's experience, which agreed with Prof. Cook.

SHALL WE PROCURE ITALIANS?

Dr. Whiting said he used this breed on account of ease in handling; thought the blacks would give more honey, but were not so easy to handle.

Mr. Hetherington thought more honey could be obtained from other breeds.

Mr. Walker said they would not go into boxes readily, unless some means were used to compel them to do so.

Prof. Cook favored the breed very much; thought with good care, favorable results could be obtained, and if much pains were taken in this way, better results would be obtained.

SHALL WE USE BOXES OR SECTIONS?

Prof. Cook would use sections as giving better results, both as to honey and market.

J. P. Allison would use small boxes or packages, either boxes or sections, as they would sell better than large packages.

Mr. Wellington agreed with the above; we should be governed by the market.

Mr. Whiting liked sections best, on account of sale; merchants would buy them because they were not worth so much, and would sell readily.

Mr. Walker liked boxes best, as he

thought he could get more honey in them.

President Cheney preferred small packages for market; favored mostly 1 pound sections, but thought some larger ones might be advisable; thought as much honey could be obtained as by the old way; would not give too much room; good results can be obtained in this way.

HOME CONSUMPTION OF OUR HONEY.

Mr. Allison said one of his neighbors was in favor of this, as he consumed all his honey.

Mr. Rouse said he would be in favor of home consumption and a uniform price agreed upon, among producers.

Mr. Walker found universal prejudice against extracted honey; we should encourage the market in every way we can.

Mr. Bingham could sell all of his honey at home, but he sold at the rate of 11 lbs. for $1, and at these rates he had no trouble to sell what he produced; and if we would make it an inducement to people to buy in quantities, there would be no trouble. We should educate the tastes of the people, and they would not buy so much cheap syrup.

Mr. Whiting said he had sold extracted honey to the poor, in place of syrups, to a considerable extent, and he expected the demand would increase each year.

Prof. Cook said that extracted honey was preferred by the students at the college, which he considered a good test; also the same at the groceries in the village of Lansing, but he put it up in small packages. It should be put up in small, neat packages, and it will sell readily, after people have tried it once and found what the quality is.

Mr. Hetherington offered the following, which was carried unanimously:

WHEREAS, We recognize any real invention and improvement in implements and methods of management of the apiary, as a source of all our real advancement in apiculture. Therefore, we, the bee-keepers of Michigan, recognizing the mutual and wide-spread benefit derived from inventions and improvements, recommend that he who shall place within our reach any improvement or real invention shall receive our hearty co-operation, and the undivided recognition and honor due for such service.—Therefore

Resolved, That we observe with heartfelt sorrow the course pursued by parties, who, in their efforts to control the manufacture and sale of the inventions of others, without their consent, or the recognition of their rights, discourage invention, and worthy and valuable zeal in the production of improvements and methods alike valuable to us all.

Resolved, That while we heartily extend the hand of fellowship and every consideration of honor to the inventor of any valuable method or improvement, we do most emphatically condemn, as detrimental to our mutual interests as bee-keepers, the production of implements embodying the inventions of others, except with due credit, and the production of a superior article or implement; that we do not regard the mere production of an article—the successful workings of which are due entirely to another invention—as an improvement, but merely as an evasion, unless such change shall, of itself, render more practical and convenient the original inventor's machine.

Prof. Cook said that we, as an association, should sustain all worthy inventions.—It costs as much to sell an invention, generally, as it does to manufacture it, unless it should be so worthy as to be indispensable to those using the invention.

Dr. Whiting favored the above heartily.

President Cheney favored it, but thought we should be cautious in trying many new inventions.

The afternoon session was opened by the President, as Chairman of the Committee on Statistics for 1878, reading a circular letter, to be addressed to bee-keepers to fill out and return to the Secretary, asking a series of questions in regard to matters pertaining to the subject.

WHAT KIND OF HIVE SHALL WE USE AND WHAT FRAME?

President Cneney said it did not make much difference what kind of hive or frame we had, provided we used only one kind; the same amount of honey could be produced. Each kind should have a style of management peculiar to itself, and should be a special study.

Mr. Fey said he had used several kinds.—In box hives you could not detect the loss of the queen as soon as in others. For wintering, he thought it the best.

The Committee on Apparatus made the following report, which was received and adopted:

MR. PRESIDENT:—Your committee feel somewhat embarrassed in reporting upon the large and interesting assortment of apparatus on exhibition, as our duty to bee-keepers requires that we shall speak disapprovingly of some of the implements submitted for inspection. We first examined smokers, of which there were 3 on exhibition, the Bingham, the Quinby and the A. I. Root. We give our unqualified recommendation to the Bingham smoker. Two of the committee who have used all of the 3 smokers think that in view of the superiority, the additional price is no objection to this smoker.

The Bingham hive is remarkable for its shallow frames, great simplicity and adaptability to the securing of comb honey. We should not expect that the hive would be salable, and should fear, from the shallow brood-chamber, that the queen might give trouble by entering the sections.

The Quinby improved hive is also very simple, quickly manipulated, and for the large space for surplus comb is very commendable.

The similar Russell hive is in every way inferior to the Quinby.

The Concord hive is a malformed Langstroth, which, from its complexity and waste room, is not to be commended.

The Langstroth hive, exhibited by Dr. Whiting, is essentially a Langstroth hive, and so needs no commendation.

The hive exhibited by John Coates is the same in form and principle as the hive disseminated a few years ago by Dr. Conklin, and has been generally discarded by all who tried it.

The only extractor on exhibition is one from Mr. B. O. Everett, of Toledo, Ohio. This is the Root machine improved. Your committee think they have seen no better. They are specially pleased with the deep can, the attached baskets for pieces of comb, and the unprecedented cheap price of $7.00.

There are several fine honey section crates on exhibition; one very fine one from O. J. Hetherington, one excellent one from Dr. Whiting, also one on the Concord hive.

There are 2 fine shipping crates; one from H. M. Bradley, of Bay City; the other from Cyula Linswick, of Farwell.

The sections are almost innumerable. Sections very neatly dovetailed and in the Langstroth frame, from Messrs. Sayles, of Hartford, Wisconsin; others of same style from G. B. Lewis, Watertown, Wisconsin; from Willis D. Parker, Defiance, Ohio; A. I. Root, of Medina, Ohio, and E. J. Scofield, of Nashua, Iowa. Nailed sections—very neat—are exhibited by Mr. Bradley, and from Mr. Alley, of Massachusetts. Mr. Hetherington exhibits his neat section, put together with glue and grooves. From the Agricultural College are sections, veneer sections, foundations, blocks, one for fastening foundation, and one for making true frames, and one Gallup frame, prepared to receive foundation.

A. J. COOK,
O. J. HETHERINGTON,
BYRON WALKER.

Prof. Cook made a motion that the next meeting be at Grand Rapids, on the 4th and 5th of December, 1878. Carried.

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BEE JOURNAL

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Contents of this Number.

EDITOR'S TABLE:

Editorial Items.....173 to 180
Cook's New Manual of the Apiary 174
Peculiar Sliding Bottom-Board 175
Fastening Comb Foundation..... 175
Honey-Boxes all in One Piece..... 176
Smokers..... 176
New Langstroth Hive..... 177
"Heap by Cheap" Goods..... 178
Davis' Swarm Hiver 178
Melilot Clover..... 179
Something about Patents 179
Honey as Food and Medicine..... 180
Humbugs and Swindles 180

FOREIGN NOTES:

Migratory Bee Culture 181
How Bees Wintered in France..... 182
Springing Bees in Alsace-Lorraine..... 182
Preserving Empty Combs 182
Origin of Bell-Ringing for Bees..... 182

CORRESPONDENCE:

Bees and Hive-Making in Southern California 183
Keeping Record of an Apiary 184
How to Prevent Swarming..... 185
Items, Statistics, Questions, &c..... 186
Honey-Dew..... 186
Patents—Answer to D. D. Palmer..... 188
Furze as Forage..... 188
Interesting Topics 189
Italians *vs.* Blacks..... 189
Importing Queens 189
Floating Apiaries..... 189
Fertilization in Confinement..... 189
Conventions 190
Box *vs.* Extracted Honey 190
Wintering..... 190
Foul Brood, &c..... 190
Wintering—Plan of Preparation..... 191
How to Raise White Clover Honey 192
Burch *vs.* Novice 192
Bee Interests in Los Angeles, Cal..... 192
Smokers and Sections 193
Chips from Sweet Home..... 193

CONVENTIONS:

Apiculture as a Business 194
Marketing Honey 194
New York City Bee-Keepers' Association..... 196
Albany County (N. Y.) Association 197
North-Eastern Wisconsin Convention 198
Western Ills. and Eastern Iowa Convention.. 198
Address of Welcome to Burlington..... 198
Italians *vs.* Black Bees..... 199
Natural Swarming 200
Comb-Honey Boxes 200
Queen Rearing..... 200
Fertile Workers..... 200
Moth Traps..... 200
Grape Sugar for Feeding..... 200
Adulteration of Honey 200
Comb and Extracted Honey..... 200
The Demand for Comb Honey..... 200
How to Prevent Robbing..... 201
How to Carry Bees through Spring..... 202
Comb Foundation..... 202
Sections and Separators..... 202
How to Italianize an Apiary..... 203
Do Toads Eat Bees?..... 203
Catching Wild Swarms 203
Bee-Houses for Honey Production..... 203
Two Laying Queens in one Hive 203
Extracting and Marketing Honey..... 203
Painting the Inside of Hives 203
Southern Kentucky Convention..... 203
Marketing Honey in Best Shape 203
The Best Honey-Producing Plants 204
Raising and Introducing Queens..... 206

OUR LETTER BOX:

Sundry Letters.....206 to 210

BUSINESS DEPARTMENT:

Items for Correspondents..... 210
Bingham's Smoker Corner 211
Honey Markets..... 211
What Ailed the Bees?..... 211

Editor's Table.

☞ Some one, by mistake, carried off the U. S. Mail hat of E. D. Godfrey, Red Oak, Iowa, while at the Convention at Burlington, Iowa. The one who found it in his possession should write friend Godfrey—address as above.

☞ New York city folks have the bee fever, and a great many hives are being sold there. Friend King keeps a lot of colonies on the roof of his office, from which he makes daily sales. The Thurbers have also disposed of several consignments at a price ranging from $10 to $12 each.

☞ The past month has been very discouraging to bee-keepers all over the country. It has been universally cold and wet. If it clears off and becomes warm now, all will be well. If not, we fear the honey harvest will suffer considerably. The weather has retarded queen rearing, and as the pleasant and promising weather of April caused orders for queens to rush in very fast, almost all queen breeders are behind with their orders—and purchasers must have patience with them. The latter can no more control the weather while rearing queens than can the former while trying to produce honey. We must all ercise *patience* now.

Prof. Cook's New Manual.

This work is now out, and all orders, heretofore sent us, are filled. Should we have made any mistake, or failed to send as ordered, we shall be glad to make amends if informed of the fact. Being a great undertaking, many delays have occurred, even where least expected; but we feel sure all such will be overlooked when the book, so neat and elegant, is received. Just as we go to press, the following Review from that ripe scholar and critical observer—the Rev. O. Clute, of Keokuk, Iowa, comes to hand, and we give it in its entirety:

When Prof. Cook's first "Manual of the Apiary" appeared it supplied a want which had been felt for some time among our bee-keepers. The old standard works of Mr. Langstroth and Mr. Quinby did not, of course, deal with the apparatus and the methods that have been invented or discovered since they were written. So *many* new and valuable things have been invented for the use of the bee-keeper, and so many improved methods have come into practice, that a work which should treat of these clearly and briefly was much needed. This need Prof. Cook's small Manual, to a large extent, supplied. That the Manual was appreciated is fully shown by the fact that so large a number of copies were sold. Practical bee-keepers, too, have generally commended it as a valuable addition to the literature of bee-keeping. It was impossible, however, in the compass of so small a work, to treat the subject fully. Some important points were presented very briefly, other points, nearly as important, were scarcely mentioned at all. Doubtless, it was the desire to remedy these defects that led Prof. Cook to revise and enlarge his work in this second edition. It now comes before us "revised, enlarged, mostly re-written, and beautifully illustrated."

As we read the book, it is plain that it has been written out of the author's enthusiasm for a pursuit which for many years has given him much pleasure. There is a certain warmth in many of the sentences, now and then rising to intensity, which indicates a glow in the writer which could have been roused only by a real devotion to the work. Enthusiasm always gives an attractive flavor to conversation. It is equally attractive and desirable in books.—The writer, whose words are warmed by his own earnestness, is sure to rouse an interest in his readers. It is safe to say that but few who read Prof. Cook's book will lay it down without desiring to own a few colonies of bees for recreation; probably, many readers will desire to engage in it as a regular calling, hoping to achieve a success as gratifying as that of Mr. Doolittle, Capt. Hetherington, or Mr. Harbison. Prof. Cook's enthusiasm is not that of a tyro.—He has kept bees for years. He has experienced failures as well as successes. The failures have only set him at work to learn the causes of failure. Year by year, through success and failure, he has come to wide experience and accurate, practical knowledge, which appear on every page of this work.

In writing a treatise on bee-keeping, this practical experience is essential, but it is not the only essential. Scientific knowledge is also needed; thorough familiarity with the structure and habits of the bee.—It is fortunate, for those of us who are to be helped by his work, that Prof. Cook brings to that work a careful, scientific training, and a special skill in observing the bee, derived from several years of careful labor in making observations of his own. In his second chapter, on the anatomy and physiology of the honey bee, he has, indeed, availed himself of the able labors of his predecessors in this department, but he has also been a student himself, has verified the observations of others and supplemented them in some degree by his own. And in the sixteenth chapter, on honey plants, his scientific knowledge of botany has enabled him to give us a better statement concerning the plants from which the bees collect honey than has been made before by any writer.

Unhappily, practical knowledge and scientific training do not always give to their possessors the skill to write the English language with force and elegance. Of this fact Prof. Cook is, to some extent, an example. The style of this second edition is much better than that of the first, but this is not above criticism. Still, all who have an interest in bee-keeping will be so glad to welcome a practical book that is up with the times that they will willingly overlook an occasional faulty choice of words, or loose construction of sentences. In its practical aspect, Prof. Cook's book is exceedingly valuable. His long experience as a teacher enables him so to present his subject that one who has never kept bees, and who has never visited a practical bee-keeper and seen his methods of work, can, if he has average intelligence, learn the theory from this book with sufficient accuracy to keep bees with success. All the practical operations of the apiary are presented in such way that all persons who have a constructive imagination can, as it were, actually see the work going on before them. This, we take it, is the real object of such a book. Success in this direction comes from the possession of the teaching *faculty*. It is because so many writers do not have this faculty that books intended to aid learners, in various kinds of practical work, fail in accomplishing their purpose. Prof. Cook has the spirit of the teacher. He so approaches his subject, so explains and illustrates it, that the reader is interested and instructed.

The numerous illustrations serve an excellent purpose. A picture of an unfamiliar object will give us instantly a better idea of it than pages of words. The illustrations are usually good, but now and then the artist is at fault; for instance, the queen-cells on page 109 cannot be called a success.

The publishers have done their work well. It is a real pleasure to take up a book that is printed on such fine book paper, with good clear type. The binding, too, is neat, so that the book presents an attractive appearance to the eye. It is a book which does credit to

our calling; a book which every bee-keeper may welcome as a fit exponent of the science which gives such pleasure to all who are engaged in it. O. CLUTE.

Keokuk, Iowa, 20th May, 1878.

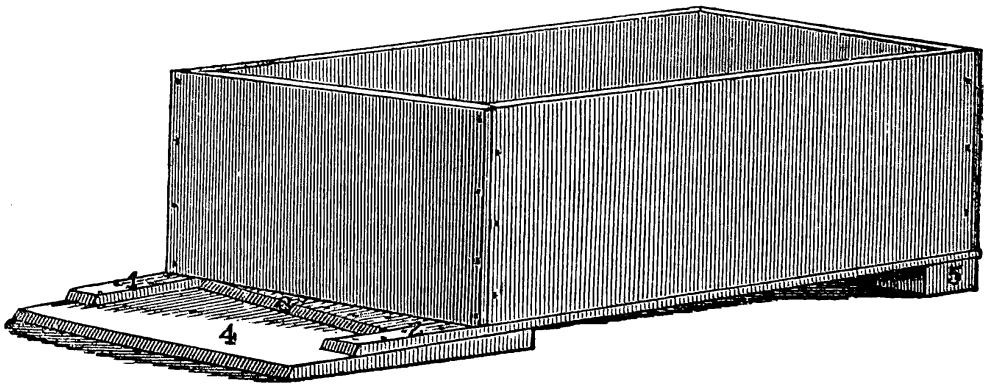
Peculiar Sliding Bottom-Board.

Friend Gordon has sent us the following description of his detached, sliding bottom-board:

It is composed of 5 pieces, viz: *One* central piece, numbered "3" in the drawing; *two* side pieces, numbered "1 and 2;" and *two* battens, numbered "4 and 5;" the fronts of 1, 2, 3 and 4, are beveled back to make the ascent easy; and number 3, (the central piece,) is cut slopingly, beginning on the short side at 18½ inches from rear end, and making it as long on the long side as the piece will allow. Thus you will perceive, *from the length of my hive*, that when the hive is pushed back even with the rear end of bottom board, all entrance to the hive becomes closed; and as you draw the hive forward, the entrance-way gradually enlarges, until, when the hive is drawn forward to the end of the side pieces, you have an entrance-way of 10½x⅜ inches. This does away with entrance blocks, and all cuts into body of hive, for purpose of entrance, which I regard as quite objectionable. We have 120 colonies, all doing well.

WM. L. GORDON.

Shreveport, La., May 13, 1878.



Detached Sliding Bottom-Board.

Particular reference to the cut and the above description will enable any one to see the design and arrangement. The sizes of the pieces of wood composing it are as follows:

No 1 and 2 pieces,		2½x¾x24 inches.
" 3	"	10½x¾x22 "
" 4	"	8x1¼x15½ "
" 5	"	2x3x15½ "

The moving of the body of the hive to control the entrance, we think quite objectionable. If we did approve of it, we should like friend Gordon's plan better than any other we know of. It is much better than the arrangement recommended for the "simplicity hive," to which we have very serious objections. At all events, friend Gordon is entitled to credit for working out the simple arrangement.

The two slides, as shown on another page, in connection with the new Langstroth hive, for controling the entrance is a much superior arrangement.

☞ California will ship only extracted honey hereafter, the freight and breakage being so much as to make it unprofitable. This leaves the production of comb honey to the Eastern and Middle States. They ask 10 cents per pound for extracted honey in San Francisco, and as it costs 3 cents per pound to bring it to Chicago, that fixes the price, in bulk, at 13 cents here.

FASTENING COMB FOUNDATION.—Friend W. W. Moore has sent us a little model showing the way he fastens comb foundation into the frames. It consists in having the top-bar in two pieces, and when put together it holds the foundation very firmly. Several have been using a similar plan for fastening it, and it works well.

Adams Station, May 15, 1878.

"Will you please state in the next JOURNAL the objections, if any, to hives in which the frames run from side to side, instead of from end to end."

THEO. F. C. VANALLEN.

[One of the greatest objections is, that no matter how much you may desire to tip the hive a little to the front, to let water run off, &c., it cannot be done when frames run from side to side. When they run ends to the entrance, all can see that it is much easier for bees to get to any comb desired, without interference from bees from other combs.—ED.]

Honey as Food and Medicine.

It is gratifying to know that our efforts in the direction of increasing the demand for honey, by publishing the little work with the above title, has met with such a hearty endorsement by the honey-producers of the country. The first edition is exhausted, and we shall issue another edition immediately, and at the same time print it also in German, for the use of the German-speaking population of our country, friend Claussen having kindly translated it for that purpose.

The Rev. J. W. Shearer, of New Jersey, in acknowledging its receipt, says:

"To me, its receipt was very timely. We were hunting receipts under the first head and authority under the second. The impetus given sugars by improved refining of modern times, and the strides of medicine from chemical discoveries, have caused honey to be too much overlooked in these lines. We believe honey will gradually recover something of its former standing medicinally, despite new medicines, and become again the favorite among sweets for many uses."

The many congratulatory letters we have received show that such a pamphlet was imperatively demanded. We discovered some imperfections, which will be corrected in the second edition. Our friends who so kindly sent in receipts after the first edition was published, will find them in the second.

Speaking of our lecture on this subject, at Burlington, Iowa, by request of the Western Illinois and Eastern Iowa Beekeepers' Association, the Burlington *Hawkeye* says:

"The meeting in the evening, to listen to the lecture of Mr. T. G. Newman, editor of the AMERICAN BEE JOURNAL, Chicago, was not as large as it might have been, owing to the slight thunder storm and the threatening aspect of the weather. The audience was well entertained, however, by a fluent and easy speaker, who showed not only great knowledge of his subject, but much enthusiasm in bee culture. His subject, "Honey as Food and Medicine," was treated very gracefully, both in its historical and hygienic aspects. The speaker referred to the ancient history of this delightful viand, showing how profusely it was used in daily life, and even in religious ceremonies, among the foremost nations of antiquity. He then passed to a physical and chemical examination of the nature of honey, and of the different scientific methods of obtaining it in its purity. He then showed its healthfulness as an article of food, and its great superiority over sugars and syrups. Lastly he spoke of it as a medicine, showing its peculiar efficacy in various diseases, espically those of the lungs. The lecture showed a great deal of studious thought. The strict attention which his audience paid to it was evidence of their appreciation of it, as well as of its merit."

Reed City, Mich., May 23, 1878.

"I send you a case of Honey Boxes, which I wish you would examine and comment upon through the columns of the JOURNAL for June, if they reach you in time. I have never seen anything of the kind yet, and so far as I know, the plan is original with me. You will observe that the box is made of *one* piece of timber, 3 mitre slots are cut across the piece, groved for the glass and guide, and then steamed and bent. These boxes are not as *perfect* as I expect to make, my machine not working exactly right yet; but you will get the idea. There is only *one* corner to nail, instead of 4; they are much handier for glassing and putting in separators."

THOMAS T. DELZELL.

[Yes; this *is* something new, and when the machine is perfected sufficiently to do true and smooth work, it promises to be of value.—ED.]

SMOKERS.—Levi Sutliffe, of Charles City, Iowa, has sent us a new smoker, of his invention. It is some 3 or 4 times the size of ordinary smokers, and it is unlike any of them in form, size, springs, revolving curved tube, &c., &c. It works with slow stroke, and will keep ignited for hours.—Being so large, it is rather difficult to handle, especially where one is not used to it. Friend Sutliffe has certainly *not* copied any other smoker. *It* is original.

Friend King has sent us one of his smokers. It is the same size and shape, both of bellows and tube, as the Bingham standard. Its peculiarity, the cut-off slide, makes it work very hard. The connecting parts are the same as the *old* Quinby. It is cheap, but *not* as nicely finished as the Bingham—the price would not admit of it. A cut of it may be seen on advertising page xiii.

We have received a small drawing of a Continuous-blast Smoker. It consists of the ordinary tube and bellows with an elastic rubber bag attached to the bellows to receive the wind and convey it to the tube continuously. We should think it rather awkward, however.

☞ The *Rural New Yorker* comes to us enlarged and otherwise improved. We always welcome it. It is one of our most valuable exchanges. We wish it abundant success.

☞ We have received L. C. Root's new circular for 1878, and J. H. Nellis' new price list. Both are well gotten up and contain valuable information to purchasers of supplies.

EVERETT'S EXTRACTOR.—By reference to our advertising columns, it will be seen that friend Everett has found it necessary to advance prices on his Extractor. He has improved it considerably since the first was made, and so had to increase its price. In his Circular and Price List he remarks as follows:

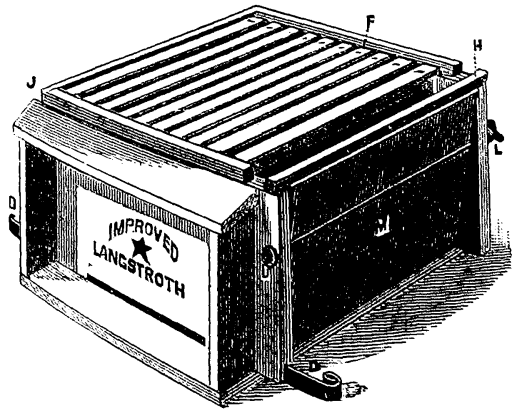
"As I put heavier stock in the cans than I first intended to do, besides making several other valuable improvements, in order to make it a No. 1 machine, which I can warrant in every instance, I was obliged to raise my price a little, and still I claim to have the cheapest Extractor, all things considered."

The little Comb basket will be very convenient to any apiarist. We were well aware that the price was too little, as at first stated, and think friend Everett is fully justified in raising it.

The New Langstroth Hive.

The fact that 80 per cent. of the bee-keepers of the United States are now using or are preparing to use the Langstroth hive, is strong proof that it is the "coming hive," for universal use.

The strongest argument against this hive was the difficulty in manipulating it—there being no movable side, and many have tried to invent something to cover this want—but

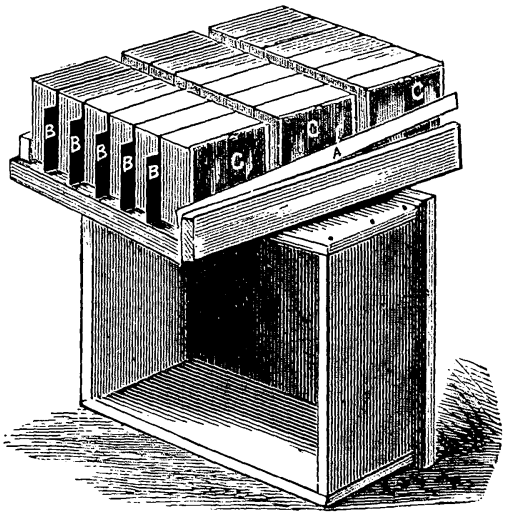


so far nothing has given universal satisfaction.

In the present instance, Sperry & Chandler, manufacturers of the North-Star Hive, have combined the peculiarities of it with the Langstroth, and by so doing will bring it into very rapid use. It is correctly represented by the cut.

Many are advocating a loose bottom board, but this hive obviates that difficulty. By simply turning the thumb-screw, L, and opening the movable side (which takes but an instant), the frames can be examined, and by removing the loose side-board, M, the bottom-board may be cleansed—giving all the advantages claimed for a loose bottom-board, without its disadvantages.

The New Langstroth Hive is peculiarly adapted for the production of comb honey—its honey rack is the best in use, and is perfectly adapted to the use of the prize boxes. It holds 18 prize boxes, with the separators between, marked B B in the cut. The wedge



(A) holds all with a vise-like grasp. The outer boxes are glassed as they stand on the hiv (C C C). By removing the wedge (A) any box may be instantly removed, examined, returned, or replaced by an empty one—the spaces between the rows readily admitting the fingers for that purpose. They are adapted to 3, 6, 9. 12, 15 or 18 honey boxes.

It is simple, durable, and withal cheaply constructed, as will be seen by figures given elsewhere in this number.

We have ordered a number of them, and hold ourselves ready to ship immediately either material cut ready to nail, or nailed ready for painting and use. As railroad companies always mar the paint, it is far better to ship before painting, and thus have them look fresh and neat when first used. They are adapted either to the production of comb or extracted honey, and can be supplied in any shapes or quantities desired.

☞We have an inquiry as to the standard of excellence of Italian bees, and would like those who are experts to send us in clear and concise language what they consider such standard. We ought to settle upon it, and must before long. "Now is the time, and this is the place." Let us agree upon a standard.

CARRYING THE WAR INTO AFRICA.—John West, Esq., 877 West Monroe St., Chicago, writes: "DEAR EDITOR.—I send you an extract from my friend Mr. Arthur Todd, an English gentleman, who has commenced bee-farming in French Africa. He has, to my knowledge, read the works of the best authorities on the subject published in England, France and Germany. This renders his opinion of the merits of your BEE JOURNAL more valuable. I send him the BEE JOURNAL every month. I extract the following from his letter, dated April 16, 1878:

"Blidah, Algeria, French Africa.—Many thanks for all your help. The AMERICAN BEE JOURNALS are of more practical use to me than all the other books I have. Please send me 'Cook's New Manual,' as soon as it is out."

"Heap-by-Cheap" Goods.

Cheapness generally means inferiority! Indeed, a recent writer sagely remarks that excellence and cheapness cannot go together, and we would save ourselves much annoyance and disappointment by recognizing and remembering the fact. He adds:

The house which the contractor builds too cheaply will invariably have weak walls, woodwork that will shrink at the corners, plastering that will drop off, and paint that will crack. How can it be otherwise? The builder will not make a present of good work and good materials to his patron; cheap work will be given for cheap pay. The tailor will not put good material and skilled labor in the suit of clothes which looks as good as the best, but is sold at a price far below what is asked for the genuine article. It cannot be done, and it should not be expected; but rather those who are compelled to buy cheaply should philosophically make up their minds to bear the consequences that must follow cheap purchases. The cost of anything, and consequently its value, is measured by two things: quality of material and the labor employed to make it. These in turn may be superior or inferior.

In consequence of the demand for cheap articles, our stores are full of inferior goods. Furniture made of unseasoned wood and hastily glued together; musical instruments that are mere varnished cases with the imitation of keys, strings and reeds for interior mechanism; silverware with a varnishing coat of shining gloss; jewelry that is fair to look upon, but is hopelessly tarnished by use; clothing that presents a fair exterior, but that rips and fades and loses shape when worn; gloves that gape at every seam at the first wearing—these, and innumerable other constantly recurring instances of inferiority, impress upon us the fact that, ordinarily, cheap things are the dearest.

The cry for cheapness some time since reached the bees—dollar queens are the result—squeezed a little, and in quantities, cheapened to 90, 80 and 75 cents!

As a consequence, the country is filled with degenerated stock. This dollar queen business—an everlasting disgrace to the one who introduced it—should be everywhere frowned down, with grape sugar for feeding bees, glucose for honey, and paraffine for beeswax!! Begotten by the degeneracy of the times, brought into being by selfishness and avarice, it has ripened into a sad calamity, which like a pall overhangs the whole of bee-dom.

While some are charging $4 for home-bred queens, at this season of the year, others are offering *imported* queens for $3.75 each! What can the purchaser expect as a result of obtaining such stock? Do stock and chicken fanciers encourage such reckless economy? It behooves all to ask themselves the question—whether these exceedingly *cheap* purchases are not usually the dearest in the end?

Morris Ellis, a farmer living near Georgetown, in Vermillion county, started home from Vermillion Grove, the other day, with eight stands of bees in his wagon. The bees grew very angry, doubtless from the jolting of the wagon, and in a solid mass lit upon the horses and driver. The horses did not attempt to run, but lay upon the ground and rolled in terrible agony. Both horses have since died, and Mr. Ellis lies in a very critical condition, and is not expected to recover.—*Vermont* (Ill.) *Chronicle.*

Isn't it strange that Mr. Ellis did not know enough to fasten up the entrances before removing bees? It was downright presumption. Spirits of turpentine is a good application to cure bee stings.

☞ A model of a swarm hiver is at hand, from F. R. Davis, Wolf Lake, Ind. It is so arranged as to prevent the queen from going out with the swarm. On their return, finding "her majesty" in the hiver-box, they cluster on combs attached to movable slides above. Their weight will open a space for the swarm to go up into the empty hive above, which will work out on a different side from the old colony. We have placed the model on our Museum shelves, to be examined by our visitors.

☞ H. O. Wright, of Lodi, N. Y., says a man, by the name of Miller, has patented the Quinby hive, and claims a royalty of him for making and using it after he has been using it for 5 years. This is one of the abuses of Patents, and will be obviated by the new law. Miller may annoy, but cannot hurt any one for using the hive.

Patents—Something about them.

It is estimated that the people of the United States reap yearly from patented inventions the sum of four thousand millions of dollars. Yet the inventors have barely reaped from these inventions enough to pay for their board and clothing, if it was equally divided among them. This shows our Patent Laws are defective. Old patents, which have never been put into use, and are almost unknown, because not sufficiently perfected to make a practical machine, are raked up by patent sharks, (rarely inventors), and galvanized into life by a re-issue, and sprung like a trap on the good invention and those using it. To correct this, there is now a bill in Congress providing that any man who has bought a machine before such a re-issue can not be prevented from using it by one of these galvanized patents, under a claim the old patent did not contain.

The bill also provides that all patents shall pay a fee of $50 five years after its issue, and another of $100 five years thereafter; and in case the fee is not paid, the patent expires, thus making the owner sit in judgement on his patent after he has had time to cool down the ardor of his first love. The bill also provides that in suits for infringements, where the prosecution has been for extorting money under claims obviously unjust, the court may make the person bringing the suit pay, not only the ordinary costs, but the whole costs of defendants counsel, and witness and expert's fees. With these corrections to our patent law, no man need suffer at all from unjust claims or extortions of patent sharks.

☞ In *Gleanings* for May, page 161, it is implied that W. J. Andrews had lost the use of his arm from bee stings. Friend Andrews wants that corrected. It was the result of a pistol shot in 1878, and bad surgery.

☞ H. Scovell, Columbus, Kansas, has sent us a sample of his all-wood queen cages. Saw cuts take the place of wire-cloth. An auger-hole supplies the place for provisioning. They are exceedingly neat and cheap, and can be obtained at this office, price 5 cents, or 50 cents per dozen.

☞ Thurber & Co., of New York, have sent 2,761 barrels of honey to Liverpool; it was sold on the 17th ult., as we see by a Liverpool paper.

MELILOT CLOVER.—In answer to many inquiries, we repeat: Melilot clover may be sown any time. Four pounds will sow an acre, and it may be sown with grain. It stands drouth and frost, and grows in any soil—north, south, east or west. An acre will support 20 colonies. It blooms the second year and then dies.

☞ There has been so much call for teasel seed, we have procured some, which we can sell for 75 cents per pound.

☞ We have one of Barnes' Hand Circular Rip Saws, which works like a charm. It will rip any lumber with the greatest of ease and exactness.—The reader is referred to our description of it on page 105 of the April No.

Chattanooga, Tenn., May 15, 1878.

"What effect will the late cold spell have on the honey production north of the Ohio River this season? Also what is its effect upon fruit and grain crops? Please inform us through the JOURNAL." S. C. DODGE.

[Unless soon ended, the cold and wet weather will greatly damage honey production. Fruit and grain were not seriously affected—only small plants were killed by the frosts early in this month.—ED.]

☞ The queen that friend Andrews offered for the best essay in the Southern Department, was awarded to Oscar F. Bledsoe, Grenada, Miss. In acknowledging it, he remarks:

"Your offer through the AMERICAN BEE JOURNAL has been handsomely fulfilled."

☞ Friend McGaw wrote us a few days ago that on opening a colony, he found some white-headed drones. We have heard of red headed ones before, and now we have the "grey-headed" fellows. We always thought they died too young to ever become *grey-headed*, but it seems their extreme youth does not in this instance save them for hoary-headedness. Friend McGaw promises to send us some to mate with our Cyprian queen, which we drew at the Burlington Convention. "Won't that be jolly?"

Humbugs and Swindles.

In *Gleanings* for May, Novice attacked J. W. Winder's honesty. We wrote Chas. F. Muth, of Cincinnati, who has long been intimate with him, and he assured us that Mr. Winder was honest, but had met with reverses, and was *unable* to clear up some business matters. Novice mis-stated the amount and ungenerously magnified $10 into $30, in his zeal for a fight. As Mr. Winder asks to be heard in self-defense, we cheerfully give place to the following explanation:

My attention has just been called to an article in the May number of *Bee Gleanings*, under the head of "Humbugs and Swindles," in which I am arraigned for not paying one J. P. Parker $30. The statement in the first outset is a falsehood. I never owed Mr. Parker one cent, personally, as stated, but we did owe him under the firm name of Gray & Winder.

The queens could not be procured as proposed, on account of the unsuccessful importation made by Mrs. E. S. Tupper & Savery. Some time after this failure to procure the queens for Mr. Parker, I made satisfactory arrangements with him for a settlement. I was to send him $15 in three payments of $5 each. I did send him $5 at the time, some 5 years ago; and from that time to this I have not heard one word from him. About this same time I received a letter from the editor of *Gleanings*, threatening me if I did not settle up, &c., with Mr. Parker.

I stated to him, by letter, the arrangements I had made with Mr. Parker, and that we needed none of his interference; we were able to attend to our own business, &c., and that if he did publish me in the *Gleanings*, that I would not pay any more.

He did make some false statements in his paper in reference to me, which were calculated to injure my standing and character among persons that did not know me; and as I consider and always try *to make my word good*, I have not paid any more on the $10, (not $30, as stated).

I supposed he had had $10 worth of malicious satisfaction out of the course he had pursued, and so I called the account square, and think I am justified.

Novice is down on thieves and swindlers. Let me ask who has appropriated and copied my curved pointed, uncapping knife? Who has copied my cuts and appropriated to his own use and sale my Swiss or Gerster wax extractor, that is so highly recommended in *Bee Gleanings?*—As long as I manufactured and advertised the curved pointed knife, he always spoke of it as of no consequence. Now he makes and highly recommends it for uncapping, and the wax extractor he highly recommends for getting out wax, &c., but he fails to hint who he purloined them from.

If a man proposes to reform the world, I think it poor policy to preach one thing and give it the lie in the practice. Brother, you had better drag the mote out of your own eye, and then you can see more clearly how to pluck it out of your neighbor's eye.—"Let justice be done though the heavens fall," if it does appear hard on those that go nosing about, appropriating bee appliances and other peoples' business to their own use, and making false statements under the hypocritical cloak of right and justice to all.

J. W. WINDER.

Terre Bonne, La., May 20, 1878.

Bee-keeping in Western Michigan.

We clip the following statement in regard to bee-culture in Western Michigan from the columns of the *Barry County Sentinel:*

The business of bee-keeping has become one of importance in Michigan, and many gentlemen in various sections are giving it a great deal of attention. Among those who have been quite successful is W. L. Cobb, of Middleville, who has made it a study for several years, and now has all the modern appliances and improvements. He has lately purchased a foundation machine, intended to use for moulding out of wax the foundation for comb with which to fill the hives of new swarms. This plan saves a great amount of labor for the bees, and in many instances they will have the hive nearly filled with honey, where in the ordinary manner they would still be building comb. Bee-keepers should look up these new improvements and adopt them when they are evidently beneficial. Marcenus Wright, of the same place, has also been eminently successful with his apiary.—During the past year his yard has been an object of curiosity, there having been at one time 230 colonies within one enclosure. He has an improved method of packing his hives for winter, which has been found a safe manner of carrying them through the long winters without loss. It is worth one's time to travel many miles to visit these gentlemen at any time during the season.—Mr. Wright has become so used to the bee stings that it seems as though he rather likes them; at any rate, at the time when strangers would be driven from the yard by these little fighters, he walks among them fearless and unconcerned. They either leave him alone, or else they have learned from experience that they cannot hurt him.

CHINESE MUSTARD AS A HONEY PLANT.—Perhaps one of the very best honey producing plants is tall Chinese mustard. It remains in blossom a very long time, seems to yield honey continuously, is equally vigorous to resist drought, or wet, and flourishes in all soils. It may be sowed any time from May 1st to middle of June—the earlier the better. It will seed itself—its greatest drawback; yet, it is far less troublesome as a weed than common mustard.—It should be planted in drills, a foot apart, for ease of cultivation. An ounce will plant a space of one rod by four.

We can only fill a few orders for this seed. Price, per ounce, 20c.; quarter pound, 75c., postpaid.

Foreign Notes,

GLEANED BY FRANK BENTON.

Migratory Bee Culture.

One of the questions at the Strassburg Convention, in 1875, was:

"In wandering with bees, what is to be observed in order to obtain a favorable result?"

The subject was introduced by Herrn G. Dathe, of Eystrup, and his remarks are summed up by Herrn Mayerhœffer, in *Der Bienenvater*, as follows:

"The speaker stated, that in Hanover, where he follows bee culture, migrating with bees is very common. In the spring, the bee-keepers go from the heaths to the marshes, and thence, late in the summer, to the buckwheat and heath localities. He migrates yearly, with an average of 400 colonies to the buckwheat and heath pastures.

"This migrating or wandering with bees is by no means easy; one must observe many points, if, instead of the hoped for benefit, damages will not be brought about. The first condition towards a good result is a good location for the apiary. In the selection of the spot for this purpose, 3 things are to be observed:

1. "Whether the pasturage is good or not. Blossoms do not yield honey alike everywhere, and much depends upon the weather. Then, the location must not be too far from the pasturage; this is particularly the case with buckwheat, hence the saying: 'The bees must have the buckwheat before the entrance.'

"The bees must be protected from the wind and weather, and against the attacks of man and beast; therefore, many migrating bee-keepers like to build closed bee sheds. When a single one is not able to do so, several unite and build a shed together.

2. "The cost. Even with the best of places, the cost is not covered, if the distance to travel is too great; the resulting expenses absorbing the return. One must never base his calculations upon good honey years; but on the contrary, upon medium or really poor years. It frequently happens that one takes his stock away from the heath lighter than when it was brought there. Whoever has not far to go, and therefore has small expenses, will not be held back by such misfortunes, but can try migrating every year.

3. "The hives must be arranged for migrating. The transport-hives must be so constructed that they can be loaded and unloaded with ease, and they must furnish sufficient air to keep the bees from suffocation. Of the basket-shaped hives, the ordinary reversible form is best adapted to moving about. Among movable comb hives, however, the equal chambers. In general, migrating with movable comb hives is safer than with others. The speaker said, that in transporting colonies in boxes he had lost *none*, which was not the case with those in common round hives.

The fourth point is their transportation—its manner. That the construction of the hive has an influence in regard to their safety in transporting has been observed, and now comes the consideration of the method of loading and the care during transportation. The means most commonly employed in transporting them are the wagon, the railway and the boat. If one has but a short distance to go, it is much better to take the bees direct by wagon, to their place, for it avoids frequent loading and unloading. Of course, when the distance is great, the railroad is to be used.—Transporting by boat is to be recommended very highly. In loading the hives, they must be so arranged that the corners of the combs are always directed toward the point whence the greatest concussions come; in wagons, toward the wheels; in railway cars, toward the buffers. It should be observed that the accidental sliding of the hives must be avoided by nailing cleats about them. The wagons must not have any standing racks. The best time to transplant them is at night. If, however, one cannot arrive at his journey's end in one night, it is best to stand the hives in a cool place and let the bees fly. Should he be compelled to travel during the day, the bees on board of the cars should be in a cool, covered car; those on boats, under a canvas roof, and ordinary wagons should be covered with cloth. All rough roads, and the paved streets of cities should be avoided, even though it be necessary to go farther in order to do so.

"A fifth point is to be mentioned: The bees cannot remain without watching and attention. This is especially necessary in the spring, because the swarming time occurs then, but less so during the heath harvest. In the latter case, looking to them from one to three times a week answers.

"In closing, the speaker observed that from the remarks it is to be seen that in migrating with bees it is not so easy to obtain a favorable result. But if all conditions for a favorable return are at hand, the greatest return can be obtained in this manner. (General applause)."

In his report of this topic, Herr Mayerhœffer makes the following observations:

"Migratory bee-culture is the height of rational, improved management. To say anything more regarding its value would be like 'taking coals to Newcastle.' Yet, why is migrating with bees so little known here in Bohemia? (This year, so far as I know, only my friend Summer, in Egerland, tried it; the result was exceedingly favorable, as a surplus of about 20 lbs. per hive was obtained). The first culture of bees in Bohemia was the forest bee culture (*Waldbienenzucht*), and in this way, the most productive spring and autumn harvests are to be secured. Then in Bohemia 'gums' are used, which are wholly unsuitable for migratory bee-culture; in addition, there exists the superstition that if the bees are moved from the place they will invariably go to destruction. Bohemia is, in consequence of its intersected surface and the resulting division into field and forest, (which, perhaps, alternate more rapidly than in any other country,) very favorably situated for migratory bee culture. If in

the level regions the flowers have disappeared, innumerable sources of honey present themselves among the mountains. With us, migrating seldom occasions great cost or difficulties, since the harvest localities, in most cases, do not lie far apart; indeed, many times they are only a few minutes outside of the range of the bees.—Even from Prague, which is quite distant from mountains, a journey to the heaths takes no longer than 1½ to 3 hours by rail. Finally, I will make one observation:—Would it not be an advantage to the bees to be taken from the dry desert air of the plains into the much cooler, damper atmosphere of the forest?"

BEES wintered well in the vicinity of Paris, and accounts from various parts of Germany show general success in wintering there. From Italy, where the season is of course further advanced, *L'Apicoltore* (Milan) for April, brings the following report: "It is not an inclination to fall into vain laments, but merely as a matter of duty that we state that the bad weather during the past month has destroyed the first honey resources—the rape blossoms and those of the fruit-bearing plants. It is therefore not difficult to see beforehand that swarming will be somewhat late this year and not very great."

ALSACE LORRAINE.—M. Dennler, one of the editors or *Der Bienen Zucchter*, says in the April number:

"A good basis for ample returns during 1878 is laid. Wintering, thus far, has been favorable. From the first of January until the middle of February, continuous, yet not too severe cold weather has kept our little creatures in a normal and beneficial condition of rest. Since the latter date the weather has been growing milder every day; the early days of March appeared as real spring days, and the bees buzzed and carried in pollen as in the month of May. The unpleasant days following have caused no damage. The first cleansing flight took place here on the 14th of February. In the rearing of brood the hives are already tolerably advanced, particularly the straw hives."

Note the statement of M. Dennler's experience with straw hives for wintering. The weather had been cold constantly up to the middle of February, yet he says his hives were well supplied with brood at that time, some having two combs filled to the bottom with sealed brood. Of course colonies located in large wooden hives, having the combs well packed above and at the sides with dry chaff or straw, and the cover raised to permit the escape of damp air, have all the advantages of straw hives for wintering.

PRESERVING EMPTY COMBS.—At a convention in Austria, Herr Gatter, of Vienna, made the following interesting remarks: "While traveling in Italy I met a merchant who showed me a fine stock of empty combs. This was at the hottest time of the year, and, astonished at not finding a trace of moths about his combs, I asked him his secret in preparing them. 'It is to chance that I owe it,' replied he. 'One day I deposited quite a quantity of scraps of comb in a wareroom where there were also some empty petroleum casks. Shortly after this one of my sons, wishing to put something else in the place occupied by the scraps of comb, put the latter into one of the petroleum casks. These combs were forgotten, and a long time afterwards when I found them they had not suffered from the ravages of the moth. Since then I have preserved my empty combs in petroleum casks. If I wish to use them afterwards I first expose them to the open air in order that they may lose the odor of the petroleum. If, after some time, the cask loses its strong odor, one can smear it with petroleum.'" A dealer in furniture informs the writer that among upholsterers and furniture dealers the practice prevails of immersing and soaking in naphtha valuable pieces of furniture, in order to prevent moth larvæ from injuring the cloth or wood. One can have a chest or long box to hang his combs in, with a shallow pan containing petroleum in the bottom, and the wood of the box can be thoroughly impregnated with the same, so that if the plan works as indicated, there need be little trouble in keeping empty combs during warm weather.

THE ORIGIN OF BELL RINGING FOR BEES.—An Englishman told me, some time since, that an English bee-keeper said to him that bees had no ears, and, of course, could not hear. He asked him why he rang bells for them when they swarmed? He answered, that people were not there allowed to cross fields and gardens, but the law provided that a person could do so if he was following a swarm of bees; and the ringing of the bell was to let the occupants of the premises know that he was following a swarm of bees. This is the best explanation of the origin of bell ringing for bees that I have ever heard. S. K. MARSH.

Palo, Mich., May 10, 1878.

Benton Harbor, May 4, 1878.

"What ails my bees?" was the question asked by a neighbor, who lives on the lake shore, and who has, or had, about 15 colonies, 7 of which have gone "where the woodbine twineth," or somewhere else.—Their hives contained plenty of honey, in good and sweet condition; plenty of brood in all stages, no moths nor mold, nor signs of any. They seem to be dissatisfied, and swarm out. One swarm was stopped, returned and queen's wing clipped; but they afterwards went off, leaving but a very few with the queen They seem to have got the western emigration fever, which is raging this spring. L.

☞ Now is the time to sow the Rocky Mountain bee plant. It grows from 3 to 6 feet high and blooms from July till frost.

☞ J. H. Nellis of Canajoharie, N. Y. will hereafter supply the Van Deusen Bee Feeder at reduced prices.

Correspondence.

For the American Bee Journal.

Bees and Hive-Making in Southern California.

Something over 2 years ago, I was compelled to leave my northern home in Michigan, on account of ill health, and seek a warmer climate. I decided upon California, and chose the southern portion. Ultimately I built a home in this place. My hopes have been realized, in the recovery of my health and finding a delightful climate.

Formerly, my experience in manufacturing machinery and agricultural tools, perhaps, has enabled me to take hold of the mechanical part of the business to advantage; and, possibly, a few ideas of mine may be of advantage to some, for it is through an interchange of views that all business is benefitted. What bee men in California, and in fact all bee men want, is means to do all their work within themselves, as much as possible and to the best advantage.

First, I got me up a hand circular saw, that in manufacturing bee hives is very complete and a great saving of labor, and not expensive to make. I have never yet seen a foot power capable of driving a circular saw to any advantage; besides the strain on a man to use one is unnatural and he can't produce half the power that he can with his hands.

First make a common saw frame, (light,) and a small arbor, not over ⅝ in. in diameter and ⅜ bearings, 2½ long; pully 2½ in. in diameter, and 2½ in. face; use babit or type metal for boxes, run into a shell, or run them in the frame; have a V on one of the bearings, to prevent end play of the arbor. Have a fly wheel, 3 ft. in diameter, weighing 200 lbs.; fasten to its arms a pulley, 18 inches in diameter, 2½ in. face; hang this on 1¼ round iron, as long as the frame is wide, bearings on each end. On one end inside the bearings put a 5 in. spur pinnion, ⅞ in. face and ½ inch pitch. To match and drive this, use a 16 in. spur wheel, hung on a shaft, 1 in. in diameter; to this shaft attach the crank, 14 in. long.—Put the pully and fly wheel at one end of the frame and the saw arbor ¾ of the distance to the other. With this machine, in 12 hours, I cut all the stuff for 100 hives, (Langstroth,) including the movable frames, 10 for each hive, 10x12; bottoms, tops and honey boards, all the cleats, and rabbeted the sides for bearings for the frames, all cut out of wide lumber.

I have made what all who have seen it say is the most complete machine for holding the Langstroth frame while it is being nailed. Take an inch board, 2½ ft. long, and 1 ft. wide. To each end of this, fasten legs so it will stand edgeways, up and down, and 18 inches, from the lower edge to the floor. Fasten to the lower edge a piece of 2x3 the same length; now take another inch board, 10x18 inches, fasten to it across one end, a piece 1 inch square and 10 in. long. Now, 10 in. from this piece fasten another piece of inch board, 7x10. Now, on this 7x10 piece strike a 10 inch circle and work to it, the center of which will be 12 in. from the first square piece. Through this center put a large wooden screw, and into the center, lengthwise of the first board and 2 inches above the center, up and down, screw it just tight enough so it will admit of the rounded board working back and forth. The lower rounded edge will rest on the 2x3 that was fastened to the main frame or first board. Now, on the No. 2 board, 10x18, between the inch piece and the 7x10 piece that was fastened to it will be, as it were, a sink of 1 inch, oben at the ends; this is to hold the 3 pieces to form the frame; but, as yet, only the top and bottom pieces is held. To hold the sides, take 2 pieces of inch band iron, 2 inches long, and screw fast to the center of this opening, projecting up 1 inch. Now, to clamp and hold the 4 pieces in place, make a button 10 in. long, ¼ in. wide and fasten with a screw in the center, turn this button on to the top and bottom pieces. This holds the whole 4 pieces firm, to nail; the sides being held by the pressure against the top and bottom.

To nail them, you have but to turn this No. 2 board (after nailing on one side) up, and nail the top or angle piece; and this No. 2 board is held in position to do this by a spring; turn down and nail the other side. The pieces are all put in position quick, held firm and square, and less than half the time is required to nail a frame than by any other machine I have ever seen. It is very simple and easily made.—I saw my top and angle pieces all in one, which makes a much stronger frame.

And now, one more improvement; or, at least, it is so considered by all who have seen it; yet, some may have a better plan. If so, let us know it. This is a slide to open and close the fly hole in the hive. To make the slide, and guide to hold it, take a piece ½x1 in., rabbet out from one edge ¼x⅜ in., cut off from this a piece for a slide, long enough to cover the fly hole, and another twice as long, and nail to the hive for the slide to work in. The lower edge of the slide will run on the bottom board.—This slide must be put in very loose, so that in wet weather it will work easy. To hold it in position and to regulate it so it will always work, take a strip of tin ½ in. wide, 3 in. long, and with a fine saw cut a slot in one end of the slide, insert the tin, bend it over, and with a small French nail fasten the other end of the tin. This tin is now between the slide and box. Take a small screw eye, and screw it through the slide against the tin; this pushes the tin against the box. With this the slide is regulated, and the eye screw serves as a handle. To close up a hive, you have but to move the slide and turn the screw and the slide is held fast. After the screw has been put in, take it out and file off the point, to prevent its pressing through the tin.

All this may seem but a trifle to some, but those who handle bees much will appreciate its worth.

And now a few words about bees in Southern California: The readers of the

AMERICAN BEE JOURNAL have been informed by its correspondents of the general condition of the bee business here. Some have painted the picture as dark and gloomy as they formerly have in bright and glowing colors. Perhaps a medium between the two would present a fair state of the business at the present time. The want of sufficient rain last winter to bring out the bee feed, and the extreme cold and backward spring, of the whole of Southern California, tells the whole story why so little has been done in the bee business; or rather, why so much has been done to so little purpose. Forming an opinion now from the best information I can command, I would say at the present time, there is not more than one-half the bees in Los Angeles, San Diego and San Bernardino counties that there was last March; and judging the future by the past, I would say that not more than three-fourths of these will get through to see next March. So that while Eastern bee men have no fears of California honey being crowded on their market this year, they need have but little for the year to come. While this is the dark side of the picture for California bee men, the bright side is the same with the bee business as with most all other kinds of business. The exceedingly rapid increase of bees in this country, and the wonderful growth of the farmers' and fruit-growers' products is the bright side, and enables California to recover from the effects of a drouth in a short space of time. The difference between a drouth in California and a drouth in a cold climate is this, the one comes out of a drouth and goes into a cold, cheerless winter, and the other comes out to go, as it were, into a growing summer.

There seems to be a wide difference in the opinions of bee men, as to the existence of honey dew. It is my opinion that there is something that settles or collects on the trees, at night, which the bees are fond of, and go for it as soon as it is light enough for them to see; and, as soon as the sun has shone on it a short time, they quit their work. With us, it is mostly on the sycamore they work. I would like to ask some of your experienced bee men if bees will work on flowers that will make poisoned honey, or that will poison themselves.

Two men here have lost nearly all their bees, some 200 colonies, and we can come to no other conclusion than that they are poisoned with their own honey. In June, the bees were moved with ours from the mountains to the valley, near the coast.—About August 1st., we moved ours back; the 200 colonies remained, and after a few days they seemed to be doing well and storing honey, but 2 weeks later they commenced dwindling away, and none but young bees could be found about the hives. A part of them were moved back to the mountains before this was noticed very much; but the effect on them was just the same as those that were left. They had plenty of honey and their queen and brood coming out; and still they would dwindle all away and leave a hive full of honey.—Ours that were brought away 2 or 3 weeks sooner did well, and showed no such signs, whatever.

If any other bee men have had like experience, and can account for it and will do so through the AMERICAN BEE JOURNAL, they will render a favor to bee men in this section.

For the past month we have been feeding our bees on grapes. We crush them, and feed 100 lbs. to 150 colonies. It makes plenty of business for them, and they don't think of robbing. The strong colonies, of course, store more than the weak ones, but it is easily transferred from the full hives to the empty ones. The grapes cost but 25c. per 100 lbs., besides the picking. This, we think, is much cheaper than sugar or honey to feed, and no trouble with their robbing.

Some of your correspondents question the statement that hens will catch live bees.—Some of our hens made such a business of it that we had to move the troughs that we kept water in for our bees where the hens could not get to them. The skunks are very fond of bees. We have watched them, by moonlight, scratch on the hive until the bees came out, and then rake them off with one paw into their mouths. The little swifts, too, that are so plenty in California, are fond of bees. We have seen them catch them as they came out of the fly hole. We shot one while he was in the very act, cut him open and found a dozen bees. The bluejays have been taking so many of our bees that we have had to shoot them to get rid of them.

M. S. BAKER.

For the American Bee Journal.

My Hive and Plan of Keeping Record.

I have been using movable frame hives for the past 16 years, and have read all the bee papers and books. We all differ somewhat in opinion about managing the bee.—Perhaps a little of my experience might help some beginner. I always winter on summer stands, as I have had no other place, and for that reason I use a very large hive. I first used a Metcalf hive, size 12x12 inches, and 17 inches high, 8 frames, with honey board and top boxes, movable front, frames stand on the bottom; hives made single, double and quadruple. I used this size for 10 years, and then made up my mind that it was too small, I lost too many bees during the winter. I then made the hive that I use now, my No. 2, and I have another, No. 3, that I designed to winter in the bee house or cellar.

DESCRIPTION OF NO. 2 FOR OUT DOOR WINTERING.

Bottom, 28x28 inches, a partition nailed across the centre, 28 in. long by 21 in. high; sides 28 in. wide and 22 in. high, nailed to the bottom board, with movable ends, making 2 divisions of the hive 28 in. long by 13½ and 21 in. high, inside measure. A 3 in. strip nailed across each end, for a tie, to keep the 2 outsides and the partition the proper distance apart. In this hive I have room for a tier of side boxes, 6 in. wide at both ends, and room for 10 frames. I use a honey board on top, 15x15 in., and 2 other boards, one each side of the honey board, 4½ in. wide; they lay over the side boxes.

I use a top chamber, 7 in. at the eaves, and 10 in. at the ridge; hinged at the ridge for convenience to work the hive. The chamber rests on cleats, running around the hive, ½ in. below the top. In this hive I keep 2 colonies of bees; when I work with one, I turn ½ of the chamber over on to the other half, which saves lifting it off the hive. When I use this hive for extracted honey, I put in a movable division board, and use from 12 to 15 frames or more, as I choose, or can have a perfet colony with only 2 frames. I wintered 2 colonies this winter with only 2 frames each, and they came through the winter all right.

WINTERING.

My manner of wintering is to put the frames in the centre, and division boards on each side of the bees, and then fill the balance of the hive with chaff or fine straw. I usually have 6 in. of chaff at each end of the hive, 7 in. of straw overhead, in the chamber. On the back side of each, that is, on the other side of the partition, there is another colony of bees, to help keep warm. So there is only one side of each colony that comes to the weather single; and that side can very easily be made double. Here we have a big colony of bees surrounded with sometеing to keep them comfortable; and it is the best arrangement I ever saw for out-door wintering. Some other hive may do better in the cellar, but I always winter out of doors.

KEEPING RECORD OF AN APIARY.

When we have 1 or 2 colonies it is an easy matter to remember all that is necessary, or if we forget just what condition they are in, it is no great job to look over just a few hives, but when we have 100 or more to work with, requiring the work of several hands in the busy season, then it is quite another thing. Then it is very necessary to keep some kind of record, especially if we practice artificial division. I have tried several plans of keeping record, papers kept in the top of the hives, little boards, slates, &c. I get my fingers daubed with honey, have to keep a dish of water handy to wash, so it is either honey or water on my hands nearly all the time.—That makes it bad to use paper or slate either, so I take a nice piece of pine lumber, 1 in. thick, 2 ft. long, and from 12 to 18 inches wide; plane it smooth on both sides, and then rule 4 or 5 columns on the left hand side, from top to bottom; in the the first column write the month; in the second, the day of the month; in the third, the number of hives; and as I use hives to hold 2 or 4 colonies, I use the fourth column to write the number of the division of the hive. Then rule across the board, just wide enough to write wth a pencil handy; rule both sides of the board alike and use it until it is full. Then copy off in a book if you wish to save anything there is on it; then plane the board and rule again. Two or three such boards will last all the season for 20 colonies of bees, without copying off. I have drawn off a sample, which I send, of last year's work. Have taken 2 new, and 3 old colonies and given the work of the season. I always have my second board at home nights, and criticise the work done by others when I am not along, so I know how it is done.

APIARY NORTH OF HOUSE.

Month.	Day of Month	No. of Colony	No. Division.	Extracted.	REMARKS.
June...	6	1	1	.....	Took 3 brood combs.
" ...	..	1	2	.....	Took 3 brood combs.
" ...	..	2	2	.....	New, 7 B. and 1 honey C.; gave this a hatched Q. brought from home.
" ...	12	11	1	.....	Did not find Q.; took 3 C., put into 9-2.
" ...	..	9	2	.....	New; 6 C.; put in 3 empty frames.
" ...	21	11	1	X 4 C.	Q. gone; cut cells.
" ...	..	9	2	X.....	Old Q. is here, taken from 11-1, June 12; the 3 empty frames are full; took 3 B. C.
" ...	..	1	1	X all.	Took 3 B. C.; saw Queen.
" ...	..	1	2	X all.	This had swarmed and gone back, and were hanging under the hive with their Q.; took 5 B. C.; put the Q. and part of bees inside the hive.
" ...	21	2	2	X.....	Strong; Q. laying; clipped her wing.
July....	3	11	1	X.....	Q. hatched; no eggs yet.
"	..	9	2	X.....	Took 3 B. C.; saw Q.
"	5	2	2	X.....	Strong; took 3 B. C.
"	..	1	1	X.....	Q. gone; lost by swarming out; Q. failed to get back with the bees; cut cells.
"	..	1	2	X.....	Took 4 quarts of bees; saw Q.
"	16	11	1	X.....	Clipped Q.
"	..	9	2	X.....	Saw old Q.
"	..	1	1	X.....	Did not see old Q; think she is all right.
"	..	1	2	X.....	Took 2 C. and 4 quarts of bees.
"	..	2	2	X.....	Q. all right.
August.	9	9	2	X 2 C.	Brood all right.
"	..	11	1	X 2 C.	Brood all right.
"	..	2	2	X 2 C.	Brood all right.
"	..	1	1	X 2 C.	Brood all right.
"	..	1	2	X 2 C.	Brood all right.

All extracted twice more; 2 outside combs; buckwheat honey.

Q. stands for queen; B. for brood; C. for comb.

Grant Co., Wis. E. FRANCE.

For the American Bee Journal.

How to Prevent Swarming.

With many bee-keepers, a most important question is, "How shall I prevent my bees from swarming?" All who have any experience in the matter know how annoying and unprofitable it is to have bees take the swarming fever when we want them to store surplus honey. Can swarming be prevented? I think it can. I am satisfied that bees will not swarm if their hive is comfortable, and they have plenty of room to store honey

Two years ago I had a swarm issue from a populous and prosperous hive, and the queen being clipped, they returned. I immediately gave the hive a thorough ventilation, and though I did not destroy any queen cells, there was no further attempt to swarm. A few days ago I opened the hive, and found the same queen that came out 2 years ago. The colony is now, and has been ever since, one of my best; and during the 2 years, nearly, since the time above referred to, there has been no sign of swarming. Ventilation, to be effective, must not only be at the bottom but at the

top of the hive. One would be likely to suppose that with openings in the top of the hive, the entrance being in the bottom, the heated air would escape at the top, its place being supplied by the ingress of cooler air at the bottom. But such is not the case. The bees at the entrance of the hive are busy fanning with their wings, their heads being toward the hive. This produces a somewhat strong current of air outward; and if there are openings in the top of the hive the cool air enters at the top, while the heated air escapes from the bottom. To secure thorough ventilation, there should be a honey-board with a little space (about ¼ of an inch) between it and the tops of the frames. In the honey-board there should be openings covered with wire-cloth. If the wire-cloth be tacked immediately on the board, the bees will close the meshes with propolis; but, if it be an inch above it and several inches in area, they will not attempt to wax it up. I, at first, used blocks of board, each having an inch hole in it, one side closed with wire cloth; but I found that the bees would invariably close it up. But I have found that if a frame be made, say 8 in. long and 2 in. wide, and the wire cloth be tacked on that, and laid over the holes in the board, so that there is an inch space between the wire-cloth and the board, no attempt is made to close it.

To succeed with this plan, the surplus honey chamber must be protected by an outside cap having openings for ventilation. Ventilate your bees thoroughly in hot weather, and keep the honey out of their way, and you will not be troubled with swarming. M. MAHIN.

Logansport, Ind., May 14, 1878.

For the American Bee Journal.

Items, Statistics, Questions, &c.

DEAR EDITOR:—I have no interest in speaking kindly of the JOURNAL, except to give "honor to whom honor is due;" but I *will* say that the JOURNAL deserves the undivided support of every bee-keeper in the land. Truly, it is *the bee-keepers' friend.* There is no paper I feel more freedom and pleasure in writing to.

Our Semi-annual Bee-keepers' Convention came off, as announced in the JOURNAL, on Tuesday, the 7th inst., and was a grand success, both in point of numbers and the interest developed. I will send you full report, but it is so long you will not receive it in time for the June number.

The locust bloom is a failure, but still the prospects are good, and I believe at the close of the season we will have much to be thankful for.

I am trying to gather all the statistics I can in regard to the honey crop of Kentucky, and hope that every bee-keeper who reads this will furnish me with all the information within reach:

1. Number of colonies last season, with increase of same.
2. The kind of hive used.
3. The number of pounds of wax and honey produced last year.

This information is designed for the benefit of our State at large, and will be published by request of our State Agricultural Commissioner, W. J. Davie, A. M., in his annual report, which will be published in September next.

Will you or some of our bee friends kindly answer the following questions:

1. Where and when was the honey extractor invented, and by whom?
2. Who first imported Italian Queens and bees into this country?
3. When and by whom was the bellows smoker invented? As from early childhood I can remember bellows, on precisely the same principle, being used to kindle fires with.
4. What is the probable number of bee-keepers in the United States, and the average amount of honey produced by each, last year, or the total amount produced?

W. WILLIAMSON, *Sec'y Cent. Ky. B. K. A.*
Lexington, Ky., May 11, 1878.

[1. The Mel-Extractor was invented by Her Von Hruschka, in Germany, about ten years since. Noticing that a piece of comb, attached to a string in the hands of his boy, being twirled, was emptied of its honey, he invented the Extractor, which is similar in principle to the Extractor of to-day. His machine consisted of a wooden tub, with a vertical axle, revolving in a socket fastened to the bottom of the tub, and held, but allowed to project above the top. The comb basket was attached to the axle, surrounded by wire-cloth, the comb resting against it. A string was wound around the axle, and then being rapidly unwound, the honey was extracted.

2. In 1859 the first Italian bees were imported into America by Wagner & Colvin, from the apiary of Dzierzon, in Germany.—In 1860 S. P. Parsons brought the first colonies *direct* from Italy.

3. A bellows is an *old* invention, but such as arranged to blow smoke to quiet bees, though previously used in Europe, was first brought to the attention of apiarists by the late M. Quinby.

4. We have not the statistics to answer this question now, but hope to soon.—ED.

For the American Bee Journal.

Honey Dew.

In February No. of the AMERICAN BEE JOURNAL I found an article on Honey Dew, by W. K. Marshall, of Texas, which I expected to be answered by some correspondent in the March No.

The article is so entirely based upon erroneous conclusions and propositions that it ought to be corrected, as many readers might be miscarried by apparent facts.

It has been proved over and over again, by men of science, of all countries of the New and Old World, that the so-called

honey dew is no more nor less than the secretion of the very numerous family of the aphidæ or plant lice.

It has also been often observed in Europe, that honey dew dropped from trees in such quantities that it moistened the ground.—The leaves fairly dripped. More than 50 years ago, Mr. Ehrenfels, who then had over 1000 colonies, reported that in his pine forests, the honey produced or secreted by the coccus or pine bark louse often dropped from the trees in such quantities that his wood-choppers were wont to sweeten their dinner bread with it.

Mr. Marshall bases his argument mainly on 3 points, viz :

1. "It is never found on all kinds of trees and plants at the same time.
2. "It is never found on dead leaves or anything dry, except as it has fallen, or been blown from some green vegetation.
3. "It is always found when vegetation is in a healthy and growing state."

1. Of course, it cannot be found on all trees and plants at the same time. The aphidæ family is probably as numerous as that of the spiders, the flies or the bugs, who all have their seasons of breeding regulated according to the time of the fullest growth of the particular tree or plant they live on. Do the bugs appear before the sap has entered the trees or bushes? Do we see butterflies before flowers boom?

The same with all the aphidæ. When their tree or plant is in its richest state of sap, they have the condition to multiply, and they do it. When the flow of sap stops, honey dew stops also. When the second sap appears, our lice are there again. The more sap, the more lice; the less sap, the less lice. When honey is lacking, do not our bees quickly quit breeding? Do they not almost barbariously, like the old Greeks, expose their children to ravenous animals, or to the inclemency of the weather or starvation? The louse honey, as it might properly be called, only appear in abundance when aphidæ are abounding. If Mr. Marshall, at the next appearance of honey dew, will more closely investigate, he will either find little, creeping, green lice on the young stems or under side of the leaves, or one of the other species of the shell-bark louse on any part of the trees or plants, *except on the upper side of the leaves.* In investigating, be careful not to overlook the youngest shell-bark lice, as they cannot be seen by the naked eye. The youngest are about the best suckers.

2. Is rather a wholesale assertion, not at all borne out by the facts. I have lying before me a piece of white paper, bespotted with divers small honey dew drops by some shell-bark lice, which live on a lemon tree, that was raised from a seed, and which stands near me. This little tree is now in its 4th year, and always has some shell-bark lice on it, in spite of the closest search, and the most thorough washing with lye, tobacco juice, &c. After a while, they always appear again, so that, if science generally did not condemn the idea of spontaneous creation, this might make me believe in it.

These shell-bark lice, we (my wife, my daughter and myself) are wont, these 3 years, to discover by the honey dew on the upper part of the leaves of the lemon tree, which never leaves the room, except for a wash. For the purpose of writing this article to-day, last night I looked at my lemon tree, and saw again divers spots of honey dew. Over one of the spots I fastened a piece of letter paper, which to-day has several distinct spots of honey dew on it. Mr. Marshall will, I trust, not object to paper, as it has answered better than a dry leaf; as paper taken from a ream could not have old or new honey dew on it before I laid it under the louse. Two young shell-bark lice on an upper leaf, about 2 inches away, in an oblique direction, are the producers of the spots on the paper. If you wish to find the lice for a certain honey dew, never look straight over it, but in an oblique upper direction. They always eject obliquely, never straight; and indeed, so sharp that I have often felt the force on my face, which could not have been if that miniature drop merely had fallen. If you wish to get a proof, spread a few good-sized sheets of paper, over night, under any tree that has honey dew on it. Next morning you will find plenty of dull and shining spots on the paper. Paper will, more or less, soak in honey dew, while green, living leaves will not.

3. This only proves what I have said under 1. I have no doubt, that Marshall has found honey dew where no insect could be found with a microscope. I have found honey dew on plants fully 10 feet from the tree, on which the producers lived. The force of ejection, the smallness of the drops and the current of air may bring it yet farther away. But mark: You never find honey dew under a leaf, while you never find, except as a rare case, shell-bark lice or any aphidæ on top of a leaf. If the lice are feeding on honey dew, why do they not go on the upper side of the leaves, or do they, from the under side, penetrate the leaves in order to suck the honey on the upper side?

Leaves are not destined to exude any fluid. They are organized for the inhalation and exhalation of vaporous gasses only. In order to exude any fluid, their cells would have to burst first, which has certainly never been seen yet. Puncture a green leaf as much as you please, you will never see fluid exude. It is a different thing to intercept the flow of sap in a maple tree trunk, or cut a vine or wound a peach tree.

If in 1862 you had such a mild winter that your pine trees grew, the coccus, or pine tree shell-bark louse could also grow. Depend on that. I wish we had pine trees around here. My bees would often get a good meal from them in early spring.

I do not look upon honey dew as an excrement any more than on honey as an excrement, which it certainly is not.

The aphidæ, which live on grape vine, I have often observed with a good magnifying glass, when the ants would come, tickle them with their antennæ, and my innocent lice would turn up high their abdomen, on the upper end of which are 2 minute, hollow pipes, out of which presently spring 2, very small drops of a crystal fluid, which my ants would greedily lick up. Among

100 aphidæ I would find working, generally, from 2 to 4 ants. It is assumed by many scientists that aphidæ suck the juice, assimilate from it what they need and eject the balance, in about the same way as our beloved bees do; for bees change the saccharine matter they bring home, to a great extent, before emptying into the cell, which has also been proved by better men than I claim to be.

Mr. Marshall, I trust, will not feel offended, but false theories should be contradicted or disproved whenever seen. If more light is wanted, my lantern is always burning. CHAS. SONNE.

Sigel, Ill., March 10, 1878.

For the American Bee Journal.

Patents—Answer to D. D. Palmer.

No; we, too, don't like patents. They cost money, Mr. Palmer. But Mr. Langstroth has lived to see his original arrangement become the standard bee hive—the best and most popular hive in use. While he is not reported rich from his patent, several not over-scrupulous parties have made small fortunes by selling his invention. The fittest survive, and Mr. Langstroth has the *honor* of *survival*; yet, several of those same parties who copied his invention, changing only the form, and calling it an improvement, after his patent expired, became suddenly convinced that for all kinds of purposes, the regular standard Langstroth frame is best. Some of these parties—*survive also!*

Every honorable bee-keeper knows and gives Mr. Langstroth the credit of all that he claimed in his hive.

The honey extractor has been extensively sold, and is a valid and real invention.—The inventor did not take out letters patent, and as a result, not one-half of the bee-keepers using the extractor *even* know the name or nationality of the inventer. And, strange to say, he has not got rich from the *generosity* of those who do *not like patents*. Yet, like Mr. Langstroth, *he survives!*

Mr. Quinby made, advertised and sold a bellows smoker. As to its originality, I am unacquainted. Either because he did not get it *patented*, or that it was not coveted, or that certain unscrupulous parties who lived in his day and generation feared his influence, it remains to this day the *private* porperty of the lamented Quinby estate.

Bingham, in the spring of 1874, showed at the Michigan Bee-keepers' Association a direct-draft smoker, which he afterward added to and subtracted from, and otherwise changed until the public were informed, at the Michigan Bee-keepers' Association of Dec. 1876, that on the 1st of March, 1877, the said Bingham's bellows smoker would be offered for sale. The smoker was shown so covered up in its main features that no one knew anything about it, except that it burnt sound, dry stove-wood, and would not go out on any reasonable neglect. Orders were taken in the convention from all but 1 or 2 of the members present. These orders were filled according to agreement in March, 1877, at which time a smoker was sent to the AMERICAN BEE JOURNAL, which gave the following notice and criticism:

BINGHAM SMOKER.—"Friend Bingham has sent one to this office. It is similar in shape to the Quinby, but of larger tube, and heavier bellows. It burns any hard, dry wood, and keeps it ignited. After laying it down five minutes, it has sufficient fire to start again. It is supplied with full instructions for use, and will be kept for sale at this office."

One was also sent to *Gleanings*, and a month later the following notice and criticism appeared:

"Mr. Bingham has very kindly sent us one of his smokers, which works just about as well as Quinby's, but so far as we see, no better. It is by no means as neat as the Quinby, and is much more cheaply got up. With our tools and machinery, it would be an easy matter for us to make them by the quantity for 50c. each. Why can they not be sold for an even dollar? I confess I hardly know where duty lies in such matters."

As I had never had much knowledge of the *Magazine* I did not send a smoker to Mr. King, who says in a private letter that if I had so done, he would have given it a good notice, as it was far, very far better than the Quinby.

As to the cost of making smokers I knew very little at that time, but as I was compelled to make them largely, I soon found that the price adopted as fair and honorable by Mr. Quinby, without a patent, would be ample for me with one, should I be compelled to get one to secure to myself the credit, and to my family the benefit of the invention. Accordingly his prices were adopted. As Prof. Cook's article, to which you refer, refers to the smoker question in part, I would ask with all due respect, Was the price of the Quinby smoker, which was so generously given and donated by Mr. Quinby to the cause he loved, so reasonable as to be an honor and a protection to him? If such was the case it was the *precaution* which I took, probably, which so turned the minds of those who so kindly advertised my humble invention, without my *consent* or *credit*; and is, therefore, a *large card* in *favor* of procuring *patents*, as a means of *introducing valuable* improvements to *actual consumers*, while it does *not* stimulate patents the *originals* of which are not coveted. T. F. BINGHAM.

Abronia, Mich., May 7, 1878.

For the American Bee Journal.

Furze, as Forage.

Mr. T. G. McGaw, in the April number, gives Mr. Eldridge's description of furze, but really does not do the plant justice, in an economical point of view, as to its value in agriculture. In the Chemistry of Food in relation to the Breeding and Feeding of Live Stock by Charles A. Cameron, Ph. D., M. D., &c. &c. 1868, he writes as follows:—

"This plant, instead of being unprofitable, deserves to rank amongst the most valuable vegetable cultivated for the use of domestic animals. It grows and flourishes under conditions that materially affect almost every other fodder or green crop.—It is rather improved by a cold temperature; it thrives best when supplied with abundant rain, but can survive a long drought."

The produce of an acre of furze is equal to an acre of meadow. For further information and analysis, the above mentioned work must be refered to.

I have seen, in Wales, several small water-wheels driving 2 rollers, in which are fastened strong teeth, for the purpose of crushing furze. J. S. WOOD.

Nyborg, Denmark, April 17, 1878.

For the American Bee Journal.

Interesting Topics.

A tong time since I tried to help (or hinder) by a few lines the old JOURNAL.—A long and serious illness has caused a neglect, both of my bees and the good old JOURNAL. Its superiority over all other journals devoted to the same object is so visible that it commands respect from all.

ITALIANS *vs.* BLACKS.

The superiority of the Italians is so visible that it does seem it would long have been settled. I have had them side by side for 7 years, pure Italians, pure blacks and hybrids. There are three points in which to compare them. First, the Italian hives contain double the number of bees, and often *three times* as many. They travel farther for forage and are *never* troubled by moths. Last, but not least, in a poor season they will average 10 lbs. to 1 for the blacks, of surplus honey. Now, I don't need to compare them in any other respect, yet the Italian has claims of being superior in other respects. Colonies all in like condition at beginning of harvest—same hive, same locality, and tried in 5 different locations, side by side.

IMPORTING QUEENS.

Imported some Italian, Cyprian and Smyrnian, September 1, 1875, but they starved while in the express office at New Orleans. One Cyprian lived 24 hours after I received them. I regretted greatly the neglect of the company. The Italians were all dead and moldy; the Smyrnians were dead, but the combs clean; the Cyprian were nice and clean, and many of them able to move. We have ships plying between here and Java, so I can get bees from that Island, as there are native Javanese who come here. I can get Cyprian bees in the same way. I am *determined* to have them direct from their native place. I care not for second-handed races. They send hybrids to America, and then to be mixed by American bees again, and then sold at a fancy price, and then only one-fourth blood. None for me. There is one thing I never *could* believe, in the Dzierzon theory, viz: That pure queens mated with black drones will produce pure drones. I was always in doubt until I gave it 3 good trials and learned to my sorrow that my fears were well grounded. I am now arrayed against that theory and argue it at proper times from actual experiments during 3 seasons. I have fully satisfied myself. Let others do the same. I believe it impossible to keep an apiary entirely pure for a length of time, unless one is continually adding young queens that are tested or fertilized in confinement. After long and mature consideration I have decided to re-queen my apiary every year, if the honey season be good and breeding extensive; if not so, then every 2 years. In the South, a queen will not remain prolific as long as in the North, as breeding is carried on so much longer.—Two years would not be much too long for a good queen, but in a fine honey season when a queen keeps up 15 full section frames of brood from April 1st until August 1st, it uses up a queen.

FLOATING APIARIES.

I investigated this matter 3 years ago and found that to build a boat for the express purpose of carrying bees was not practicable, and gave the subject of forage along the Mississippi River, from Cairo to Natchez, a careful investigation, and found it would not support an apiary or a barge, but by going up small streams it might do, but have doubts. There is a similar object I have in view, as soon as forage begins to fail here, to move the bees up above St. Louis by railroad, so as to lose little time in transit; but if forage should remain good here, it would not be advisable, only in case honey fails here in the last of May—then go. In this State there is forage for 1000 lbs. to the colony if the atmosphere was only favorable, which is generally too cool. Many speak of the hot South; my objection is, it is *not hot enough*. I shall watch the season closely, and if our harvest is not good I will go to Illinois at once.

FERTILIZING IN CONFINEMENT.

Well may Dr. Parmly offer $25 for the "best method of fertilizing in confinement;" but hereafter, when I offer anything for a prize, I shall consider well who are to be the contestants and manner of decision. Yes, 'tis a fine plan to get the best mode on certain topics, for two or three to offer a small prize, thereby bringing out a few of the best, and then it is public. I deem it more honorable to communicate such things at once to the journals, when such a small sum as $25 is offered. I would give it free to the JOURNAL before I would compete for a sum less than $100.

I do not deem any plan to propagate a foreign race of bees in any way successful, unless done in confinement, to retain the race pure, to prevent loss from birds and other enemies, to prevent loss from perishing while on a bridal trip and from entering wrong hive. Queen breeding is very uncertain at best, and when attended with all these drawbacks it is very much of a risk. Now, to think of raising pure queens when there is any black blood within 10 miles—it is very uncertain to my mind. In Point Coupee, I knew two instances where there was not an Italian within 10 miles, and yet, there came a swarm with a fine Italian queen, mated with a black drone. I am familiar with several instances where Italians have come 5 miles and united with blacks; and is it not as reasonable to assume that blacks will do the same? The fertilization of queens must be done in confinement, if it is expected to keep the race pure. I tried it in 1872-3, and failed almost entirely. I tried again with much

better success. I noticed last year the fertilization of 3 queens; in each instance they came out, rose about 15 feet high and then seemed to sail around in a circle until they met the drone, which I saw in each case; at the moment they met the drone I lost sight of the first two. I saw her all the time she was out; she met the drone as the others did, at the instant of meeting they fell within 4 feet of the ground, when they separated, the queen entering the hive, showing that copulation had taken place. With these observations I believe I know the requisite space for fertilization. I met a bee-keeper of many years experience who stated that he had observed the fertilization of more than 40 queens, and stated that it was in each instance as above stated. The expense in the North for a house would be heavy, but in this climate but light. If health permits, I intend to give it a thorough trial; as learning just the time a queen will meet the drone is an uncertain thing. One could sit and watch a nuclei for the young queen to appear, and as soon as she comes out put her and a drone in a cage and see what you will get. That I have tried and failed entirely more than once.

Another one asks for some plan to raise queens with less bees. Enough has been tried to show that in nuclei is not the proper place to start queens, and until the cells is 10 days old, it has not a safe place in the nuclei. So much raising queens in weak colonies has already been done, raised cells in very strong colonies, and when 10 or 12 days old put them into nuclei and in the confinement. I hope Dr. Parmly will succeed in creating an interest and get out all the wisdom possible, for when we get this Cyprian, Javan, and Smyrnan, how are we to keep them pure unless we succeed with the confinement? Will Dr. Parmly please give us a brief name for this process?

CONVENTIONS.

It seems that the National Convention has wandered far East. It is a good road to travel, and even to look in that direction and see one "with his hat on" is still better, but in the matter of bee conventions you have gone too far to do us any more service in the way of holding up the interests of the South-west. I will make a suggestion for the consideration of the South and West: Let us have a convention in St. Louis next autumn. Let us have opinions *pro* and *con* through the AMERICAN BEE JOURNAL.

BOX *vs.* EXTRACTED HONEY.

We are glad of the interest taken through the North in favor of box honey; it gives better opportunities for our extracted here, as it does not seem practicable to raise box honey. In giving accounts of those large yields of box honey, there seems something always left out; and when those who raise large crops of box honey, and give their mode of the same, there is always something not brought out—one important item left out—not mentioned, perhaps it is best.

WINTERING.

Wintering seems to be still a vexing question. Well, I am done on that topic.—If I was in the North I would send my bees South; not south just to middle Tennessee, but to New Orleans. The 1st of September my bees were weak, and had but about 12 lbs. of honey; November 10, I prepared them for winter. The blacks had but little honey, Italians an abundance. I equalized and gave, as near as I could, 20 lbs. to each one. During my absence, 2 deserted their hives, (perhaps were robbed). I have been examining this week, and find an average of 5 full frames of brood, gathering fully from willow and fruit bloom. Hives contain about 8 lbs. of new honey, (willow), and some old. I hope we may have a good season this year, as our last was one of the poorest ever known. W. B. RUSH.

Carrollton, La.

For the American Bee Journal.

Foul Brood, &c.

In reading the proceedings of a Bee Convention not long since, I noticed that Prof. Cook make the remark that he did not think the extractor was the cause of foul brood. He is perfectly correct in making this statement. My object in writing this article is to let all know that the modern management of bees cannot be the cause of foul brood. My bees have had the foul brood for the last 3 years, and I have never used the extractor. I have never seen but one in the State. I have never fed my bees anything; have never seen foundation.

When the receipt for foul brood came to hand, I commenced doctoring, and every colony I so operated upon has since died. Salicylic acid and borax will stop it for the time being, but the next brood is affected; and why should it not be, if the disease is in the honey in the hive, as the late Mr. Quinby said it was? I have lost during the last 3 years about 40 colonies of bees, but I hope that it is the last I shall lose from foul brood. I cannot now discover any signs of it in the colonies I have left. I have sent for an extractor, and if I find any more colonies affected, I think I'll take out every frame and extract all the honey.

The bees in my box hives commenced to die first. I have been using the new Quinby hive for the last 3 years, and I have not had a natural swarm from it, yet I keep the hives shaded, and give them plenty of box room, and occasionally put an empty frame in the middle of the brood nest. In the swarming season I do not keep more than 6 brood frames in the hives during the honey season.

The most honey I ever got from one colony was last season, 173 lbs., in boxes and sections; they were black bees. Two years ago this spring, I sent $5 East to pay for an Italian queen, and in the course of time she arrived by express dead; the same parties, in order to make the loss good, sent me two more queens through the mails; they were also dead when they arrived. The same day that the first queen came, I sent $5 to Lower California, to pay for an Italian queen, and in 19 days I received by express a beautiful looking queen, and the first one I ever saw; she was put up properly.—Well, things went on smoothly until the

Italians got the majority in the hive, and when I would open the hive, they would make a bee-line for me, (they are so smart), and sting my nose and close my eyes.

It is generally considered, here in Oregon, that it is unprofitable to engage exclusively in the bee busines; but, I think, if it was not for foul brood, it would be profitable.—I know of not more than 5 or 6 bee-keepers here. I sell my honey at 25c. per lb.

I have sent for the Prize Sections and Crate, as advertised in the AMERICAN BEE JOURNAL. I sent for the 2 lb. glass jars last spring. I like this box the best of any I have ever seen. I have sent for Novice's 1 lb. and 2 lb. sections and tin separators, and if they come in good condition I consider myself pretty well fixed.

The wild willow bloomed here about January 15. It rained hard until about the 20th of February. The beautiful dandelion is commencing to bloom.

If I should make a guess at what the cause of foul brood was, I would say, "in and in breeding." THOS. BRASEL

Portland Oregon, Feb. 21, 1878.

For the American Bee Journal.

Wintering.

Perhaps a few words on the above subject might be of some use to such bee-keepers as, like myself, are not blessed with the best kind of a winter repository. As for out-door wintering, I have not much to say, as I have had but little experience and less success with it. If they were to stand out exposed, I could not expect them to winter in this climate with any degree of success; and if packed with straw and half buried, as is recommended by some, it would soon cost more to do that than it would to make a good cellar, and put them in and out of that once a year. Three years ago I put 5 colonies in a little place dug out under the house, and lost none in wintering, but lost 1 in the spring by them killing their queen. All were movable-comb hives except one, and that was a common box hive. I ventilated the box hive by blocking it up a very little and leaving a small hole in the top.—The frame hives were ventilated by leaving the entrance open about ½ inches, the caps left off and the cloths loosened up, but spread all over the top of the frames. I could not tell much about the temperature, as I had no thermometer then, but I know it was very irregular. In the coldest weather I kept a cup of water near the bees, and frequently found it frozen, but never saw any bad effects from the cold, except that 1 colony got the dysentery. I hardly think it was caused by the cold. That colony I frequently took up to let them fly on the window in a warm room, and out doors when the weather was warm enough, but never was benefitted by it. Every time they had a fly they were worse off, though they came through the winter, and by good care in the spring, they made a good colony.

That season I got 225 lbs. of honey for each colony wintered, and increased my stock 200 per cent.

Two years ago I put 12 colonies in the same place, placing them 6 on a side on 2 benches. The temperature that winter varied from 37° to 60°, but most of the time the mercury stood at 48°. Hives were ventilated by leaving the entrance open about ½ inch, same as the winter before; the top I ventilated according to the temperature.—While the temperature was at or near 48° I left the cloth down flat, all over the frames, and when the mercury went down several degrees, I covered them up warmer, by laying several thicknesses of folded newspaper over them. When the temperature began to raise I took the papers off, and when the temperature raised much above 48° I raised up one edge of the cloth. When the mercury went up to 60° on the 31st of December, I found the bees as lively as in summer. I then about half uncovered the hives and left them clustering on top of the frames until the temperature went down far enough, then they went among the combs and I covered them up again, and so I kept changing the ventilation of the hives during the whole winter.

For cover over the frames I use 2 thicknesses of sheeting, doubled together with 2 thicknesses of newspaper between them.—I put them in on the 3rd of November, and took them out the last of March and lost none. All came through in excellent condition. The winter being very wet the ground filled up with water, and from February the water stood even with the bottom of the repository; for some time, and before time to take them out, the water raised about 6 inches, and when I took them out I waded in the water about ankle deep.—That season I increased from 12 to 56 colonies by buying only one queen. It was a very poor season for surplus honey.

Last year I dug out my cellar about 7 feet deep, and plastered it with water lime, but failed to get it water tight. I put the 56 colonies into it on November 24, and took them out the 30th of March, and the 2d of April the water run in so fast that I took out from 4 to 8 pailsful every day for about two-thirds of the time; and once every two days, the remainder of the time. I made it one of my regular chores.

I ventilated the hives by leaving the entrance open about 4 inches wide and a ⅞ inch bit hole, half way up the front board, and left the top about ¼ uncovered, without a change during the winter. They were tiered up 3 benches high, the lower one being about 20 inches from the bottom of the cellar.

I had a sheet-iron stove in the cellar, and a 5 inch pipe connected with the stove-pipe above the floor. Occasionally during the winter I put in a shaving fire that would heat the stove red hot at once and soon go out. The object of that was to dry the air in the cellar, though I am quite sure I did not do it often enough to do much good.—To ventilate the cellar, I left the draft hole of the stove open, and perhaps two-thirds of the time I left the cellar door open, at night, in the stove room.

The regular temperature during the winter was 48° seldom varying more than 1 or 2 degrees. Out of the 56 colonies which came out alive, and after I sold 1, had 1 robbed, and united a few weak and queenless ones, I commenced the season with 47 colonies.—

I keep my cellar dark, but go into it with a lamp as often as I have occasion to. My experience has exploded many a fine theory, such as: Never disturb them during the winter. Neither have I ever been benefited by winter flights, and have quit it entirely and set it down as an erroneous theory.

Palo, Mich. S. K. MARSH.

For the American Bee Journal.

How I Raise White Clover Honey.

As soon as white clover commences to bloom, divide the strongest swarm. I use the Langstroth hive. It should be done before queen cells are started. Take a new hive, painted like the one you wish to divide, and from the old one remove 5 frames, (½), containing brood of all ages with the adhering bees, into the new one, leaving the queen in the old hive. Put a division board in the new hive, set boxes on the frames, close up ½ the entrance and leave it on the old stand. Remove the old hive 20 or 30 feet away, fill it out with empty frames and the job is done.

In a few hours a large proportion of the old worker bees will return to the old stand, enter the new hive, thus crowding it. They will commence building queen cells in the brood chamber at once, while the surplus bees will be forced up into the boxes, and begin work. By the time a queen is matured the boxes will be filled with nice, white honey. Enough bees will remain in the old hive to keep it prosperous, as it has a laying queen. W. C. TOWLE.

Eugene, Ind., May 7, 1878.

For the American Bee Journal.

Burch *vs.* Novice.

MR. EDITOR:—It is not my desire to excite any ill feelings or controversy through the columns of our valuable BEE JOURNAL, yet, the desire to see fair play prompts a few words on my part; and it certainly does seem to me that Mr. Burch should have borne his loss, in the matter of comb foundation, without calling on Novice to make it good. At that time it was but an experiment, and Mr. Burch could surely only have ordered it as such.

A. I. Root has had to bear a great deal of abuse at various times, and perhaps he deserves some of it, though I have had some dealings with him, and the trade was on the square. But Novice must certainly "rise and explain" about that deficiency in the weight of the beeswax.

Some time ago, the columns of our bee publication contained the announcement that a new work on the honey bee had been published, and the title thereof was a taking one, "Money in the Apiary," and it was to tell us all how to double our profits; and, Mr. Editor, as I had never got all the money that I wanted from my apiary, I forthwith enclosed the desired 25c., and sent for it; waiting anxiously, in the meantime, for its arrival. Just imagine my feelings when I received an envelope, (a common buff one), with my bee book inside of it. I must confess I never felt so badly sold before. The size of it being 3x5 inches, and containing, all told, 19 pages of reading matter and a few advertisements; and one of the most important of its teachings is, that we must re-queen all of our colonies the first thing we do in the spring. And where is the successful bee-keeper who does it?"

Cambridge, Ill. J. V. CALDWELL.

Bee Interests in Los Angeles, Cal.

N. Levering is editing a column called the "Bee-Keepers' Column," in the Los Angeles *Star*, being requested to do so by the Convention lately held in that county, from which we extract the following:

SWARMING

The swarming season is upon us, and from all we can learn bees are casting an unusual number of swarms, but not so large as ordinarily. They seem disposed to retrieve the losses of the past and are spreading out their forces rather thin. One, and perhaps the only reason that can be assigned for this is that colonies generally, were quite weak at the commencement of the working season, which opened upon them quite luxuriously, and inspired their workers at once to action, and her majesty of the hive to active duties to augment her forces to gather the coming bountiful harvest, there being a large surplus of empty comb at her service. We are often asked the question, how to prevent swarming? The only cure that we can prescribe is artificial swarming, or cut out all the queen cells every eight days. Care should be taken to remove every cell, for should there be one left a swarm will certainly follow. Many absconding swarms are passing through the country en route for the mountain of Hepsidam, or a lodge in some vast wilderness. There is no general rule by which the apiarist can tell when they are going to swarm, they often swarm when least expected, and need careful watching from about eight o'clock in the morning till four in the afternoon.

BEE-KEEPERS' MEETING.

Meeting met pursuant to adjourment. President A. J. Davidson in the chair. Minutes of last meeting read and approved. The President stated that he had received a communication from Mr. Wilkins, of Ventura county, stating that there were about 2,200 colonies of bees in that county to begin the season with. Packages for marketing honey was then taken up and discussed. E. W. Sinclair advocated shipping in barrels, ironed hooped and thoroughly waxed on the inside, which he said might be done by bringing the wax to almost a boiling heat and pouring it in at the bung hole, corking up and rolling the barrel quickly, so as to spread the wax in all parts; then turning it out. It would take about one pint to a 30 or 36 gallon barrel. J. E. Pleasants, of Anaheim, stated that the bee-keepers in his part of the county were going to ship in barrels this season. Twenty-six gallon barrels were

mentioned as the proper size for shipping purposes, which was concurred in by the meeting. The subject of canning was then discussed. E. E. Shatluck said he had suffered loss from imperfect cases, that during transit they would, from rough handling, require re-nailing, and nails were often driven into the cans, causing leakage. N. Levering said the cases should be strapped with iron. J. E. Pleasants recommended raw-hide. A. J. Davidson said, in soldering cans he made a small orifice with an awl or some pointed instrument which was soldered after soldering the main entrance.

On motion of N. Levering, a committee was appointed to ascertain the respective cost of packages (cans and barrels), and report at the next meeting. The President appointed the following committee: J. E. Pleasants, N. Levering, E. E. Shattuck.

C. J. Fox, President of San Diego Bee-keepers' Association, came in and was called upon for a statement relative to the honey interests in his county. He said that the loss of bees in San Diego county the past season was less than one-half; that bees were doing remarkably well, storing honey and swarming unusually; that the bee-keepers would make extracted honey, and not comb, as heretofore; and that they had tried, to a limited extent, shipping honey in barrels last season with quite satisfactory results; that where it was shipped by water the barrels should be wood-hooped, as the action of the salt water on the iron hoops would rust them off.

For the American Bee Journal.

Smokers and Sections.

MR. EDITOR:—Once I found fault with the rough frailty of my friend L. C. Root's smoker, also with Novice's 1 lb. sections.—But I got "churned" a little for it. Well, pretty soon, Novice *himself* must have found fault with the sections, for just as I predicted, he went at it and made them a *little* better. Probably as good as he can.—I will send you a sample section, soon, such as I make with a jack knife, or get some way. Now about

SMOKERS.

Somebody has caused friend L. C. Root to improve his *smoker* also. I have just been using one, and I find it much more solid than the old one, but so heavy as to completely tire out my hand. I have been comparing it with one of Bingham's smallest size, and *some way* the little B. smoker has nearly twice the draft, and is so light and easy to handle, and yet so firm and strong. Much has been said about these smokers, so much that I have been testing different ones for the past few weeks; and, candidly, and disinterestedly, I think it is as you said. The L. C. Root smoker is an improvement on the Quinby, just so far as it copies Bingham's; and the copy is so complete and the change so "Binghamized," that, were the shade of the lamented Quinby to visit this mundane sphere, he would say: No, that is not a *Quinby non patented* smoker, it is a Bingham patented, and a palpable infringement, which I never would have encouraged. The addition of heavy cast iron fastenings adds to its weight, but *not* to its strength. As smokers are liable to fall oftentimes, the lighter they are, the less susceptable to injury.

I think Mr. Bingham is away ahead yet, and may justly claim to be the original inventor of a practical bellows smoker, so completely has he revolutionized it. Mr. Quinby took great pains to make the connection tube between the barrel and the bellows *air-tight*; but, since Bingham discovered and patented the principle that the *open air* was the best "tube" to blow through, I notice that the Quinby not only has a very loose fit between the tube and bellows, but actually has holes to let in some of Bingham's fresh air.

Well, to conclude, I will say that I thank friend Bingham for the light, firm, durable and forcible impliment he has given us.—The FIRST practicable bellows smoker, as the old heavy German smoker was too cumbersome, while the Quinby was too frail and imperfect in its action to be of much service after the first week's use. Above all else, let us give "honor to whom honor is due."

Bees about here are swarming, robbing and starving, all at the same time. Precocious seasons, and bees are like precocious children; at 8 months, they can walk; at 1 year, talk; at 4 years, declaim; at 10 years, they know more than their parents; at 15, they can run horses, gamble and chew tabacco, drink poor whisky, &c.; and at mature manhood, just about chew gum, with a string tied to it, and then come home to board with "ma." Many of my colonies of bees have gone to boarding with my 2 qt. feeders. Is this to be the *summer* of our discontent? It looks so.

JAMES HEDDON.

Dowagiac, Mich., May 18, 1878.

For the American Bee Journal.

Chips from Sweet Home.

We received from A. I. Root 2 dipping plates, with 5 in. comb foundation machine. Gave them a thorough trial for many days, but the wax would stick more or less, although we thoroughly starched, &c. Two women suggested a board; we tried a small piece. Well, it slipped off nice, so we made 2 plates of pine, planed thin and smooth; and, to say the least, they are "peelers," *i. e.*, the wax sheets slipped off almost too readily. The boards should be made thin and smooth, of straight grain, with handle on top, similar to other plates. To keep from warping, when not in use, hang in a well or cistern, or lay in a barrel of water. I think, by regulating the thickness of the board, the thickness of the sheets can be evened. Two dips with boards will make as thick sheets as 3 with tins, and cool quicker, *i. e.*, we have to hold over boiler less time to quit dripping. One dip with boards is often sufficient thickness.—Some wood may be better than others.—Try, and report.

D. D. PALMER.

Eliza, Mercer Co., Ill.

Conventions.

Apiculture as a Business.

READ BEFORE THE N. Y. CONVENTION.

Apiculture dates back to the earliest history of our race. Marked notice has been taken of the Bee and Honey in all ages, and it has now become prominent as a business. We have learned that the Island of Cyprus has been noted for the purity and value of its honey and wax; and I hope ere long our own favored clime may possess some Cyprian bees. Bee culture was probably introduced into our country by early settlers, but it received its first impetus as a business about 20 years ago.

By reference to the report of the National Convention in New York, the fact will be discovered that there is a growing demand for honey which will be supplied. We do not now begin to furnish honey enough to supply the increasing market; and yet, some are croaking about glutting the market or overstocking the United States with bees. This idea is so absurd as not to need notice.

True, in this as in all kinds of other business, there are losses, but I mention that for the amount invested, and the care and attention required, no other business presents better prospects for a safe investment and steady gain, with fewer losses.

But what advance has apiculture made within the last 50 years? Beginning with box hives or gums, and obtaining honey by murdering the bees with brimstone, we soon began to use top boxes for surplus. Then Huber came with his hives and articles, in which he explains the natural instincts and habits of the bee. Following him, S. B. Parsons, of New York, was, I think, the first to introduce the Italian bees into our country. Soon we find Quinby, Langstroth and King following with the movable, frame hives, and then apiculture began to appear in a more favorable light and receive more attention.

Next comes the extractor, a valuable invention, without which our bee masters would be lost, and with which honey can be placed on the market at a price which will compete with the finer syrups, and, according to medical authority, honey is much the best to use. Combs can also be saved for future use.

Next comes comb foundation, a most useful and indispensable invention. With it we can save at least ⅛ of the work of the bees, and make use of our old wax, get straight combs and avoid drone comb, where not wanted; and the comb produced by it is more uniform.

Many valuable improvements have been made in bee hives. I am studying the hive question thoroughly, and expect soon to see placed upon the market a hive which shall be more easily and more speedily handled than anything that I have ever yet seen, giving all necessary room for surplus, and being a good hive in which to winter on summer stands. I am of the opinion that wintering on summer stands will be generally adopted. I am watching the experiment of wintering swarms with two queens in one hive, with a thin division board and entrance from opposite sides of the hives; and I hope to find success.

If you are a mechanic, you can make your own hives, or get them ready to nail, and the profits are sufficient; but remember, in order to succeed you must work in this as well as in any business.

Here, on a pleasant summer day, I love to see the countless thousand of busy workers hurrying to an fro, their golden bodies resplendent in the sun, seemingly striving to please their keeper,—and how sweet is their busy hum? SILAS M. LOCKE.

Marketing Honey.

READ BEFORE THE OHIO CONVENTION.

Mr. President and gentlemen of the Convention: At the last meeting, at Delta, it was thought advisable to have certain matters pertaining to our favorite pursuit, (bee culture), discussed at this present meeting in Napoleon, and to that effect there were persons appointed who should address us on the subjects then named, and amongst them the subject of "Marketing honey" was appointed to the lot of your Vice President.

Within the past year much has been written on this subject. If we have a uniformity of ideas, a regular and systematic size of sections, to put up our honey in, of one, one and a half or two pounds weight, and use some system of information by which the members can all be posted in regard to prices of honey, both comb and extracted, we shall be prepared to act and sell understandingly.

If we conclude to ship honey, provided our home market is not competent to the whole consumption, why not have a member of this Convention appointed to confer with wholesale houses and act as an agent for our society, thus disposing of our honey at best regular rates and gaining a fair price for each and every one? To this end the honey should be graded, and every man's sections labeled with his name and apiary, (if he has given it a name), and his residence.

With many there is a fear that the Market will be overstocked, and that the supply will be in advance of the demand. Such has been the cry at every stage of the growth of the country. Look at the orchard. When I was a young man, some fifty years ago, the farmers said, "Plant no more fruit trees; there are too many now; fruit is worth nothing." From that time to the present, millions of apple and other fruit trees have been planted, and I would ask, Is the supply to-day in excess of the demand? We all must answer no; emphatically no!

I went through the city of Toledo and called at the grocery stores to enquire both in relation to the price of apples and honey, as well as to the supply. I found apples scarce—only one kind on the market, and few of them; a third-rate apple in flavor,

the Ben Davis, and these brought from the South and West, and the lowest was $1.60 per bushel, by the barrel. What say you, apiarists and farmers, can we not afford to plant more apple trees? Is the supply too great? Not at all! It can be largely increased to great advantage! So too, in regard to honey. Is the supply equal to the demand for good, comb honey, in the best marketable shape? or extracted honey put up in attractive form, for retailing, or for wholesale? I will answer *no.*

On going my rounds, enquiring for apples, I made honey, its quality and supply, my earnest enquiry. What was the result?—Scarcely any—almost none, of a good article in attractive shape! My enquiry was, "Have you any honey to sell?" "A very little." And they showed me a half dozen sections, pasted together, with paper over them; the end one having been taken off, the package, dusty and smoky, had a forbidding look, and instead of being enticing, it was just the reverse. I asked, "How long have you had this?" "Since early last fall. There is little or no demand for comb honey now." I had a section glassed, and showed it to him, and asked, "Can you not sell such honey as this, put up in this attractive form? I can give them to you in a shipping case, so that you can take out just what you wish to sell and keep the balance clean and neat." He was pleased; I saw his eye brighten, and after a little, he said: "*Yes*, I can sell such honey as that, put up in that way! What would you charge me for 100 lbs.?" I said, "$25."—He studied awhile, then said, "I would have to sell it at 30c., but there would be no waste and I can put it in a basket with orders left me, and deliver it as neat and clean as it is now. I guess I will try some, any how."

Here was a man who felt sick over honey; there was *no sale* for it; but as soon as he saw something neat and attractive, he was alive to his interest and would purchase!—I asked him, "What did you pay for that section box you have?" He replied, "Fifteen cts. a lb., but every time I took off a card I got my fingers smeared, and it was always more or less smutty, and I could not keep it clean and neat."

We want to know how to increase the demand; how to get up a market for honey.

First, if comb honey, it should be in neat, clean, white section frames, properly filled and capped, and put upon the market in neat shipping crates, holding, say 24 sections or more, so that they look not only attractive and inviting, but even *enticing!* These sections, if put into frames, can be glassed before or after they are filled or not at all, as may be preferred. Either are neat and handsome. I think I would prefer glassing after filled, if I glassed them at all. I think it would be well to offer them for sale both ways, glassed and unglassed, for when put into the shipping crate, one shows through the glass in the crate about as handsome as the other. The only difference will be with the grocer in sending to the purchaser. He cannot pack the unglassed one in his basket and keep it in shape as well as if glassed.

These refer principally to sections put in broad frames, but can be used for sections, say 5x6 inches, put together closely with a band of paper around them, 1½ to 2 inches wide, which will hold them perfectly secure. These can be placed on top of the broad frames, and when filled can be glassed, the same as those put into frames and placed in the second story of the hive. I think, in either case, tin separators will be advantageous.

In a glassed box you gain much in weight, and the person of taste and means will purchase them in preference to the unglassed, but to create a demand and make a market, you must cut the surplus weight down, so that you can hold out an inducement to the larger class of people; viz, the poorer ones, so as to give them the same amount of honey for less money; and thus, the poor can purchase the same quality, just as neat and clean, and not pay for the glass, which they cannot eat. For shipment, when the shipping case is full, they both remain stationary and reach their destination with uniform safety. These shipping crates have glass sides, so that the neat, clean sections can be seen, and they attract the attention of all who see them; and thus are many enticed to purchase.—Many persons of moderate means, but of good taste, will purchase the glassed sections in preference, when they would not handle the unglassed ones. They look so neat and clean, and really lovely, and so secure from dust that they will say, give me none but the glassed boxes; while the laborer, who never leaves an order, but makes his purchase and takes it along with him, will say to himself, those not glassed are just as clean and neat, and I will save paying for the glass and have more honey, and he purchases and takes it home. The grocer who keeps honey put up in such an attractive form will sell largely, because the eyes of the purchaser admires it; but if such is seen as I described that I saw at the grocery store alluded to above, you may be sure there will be no desire to either purchase or eat it.

Now let me fancy a case, which, no doubt, will be a true one, and will show how to get up a demand. You may go to a grocer who has some honey on hand, rather repulsive looking, and ask him if he wishes to purchase some nice, comb honey, and he will say, *No*; I have some here that I have been trying to sell for six months, and nobody will buy it. No, I do not wish any. Do not quit him or be discouraged; show him a crate filled with such sections as those above described, in the nicest shape for market, and tell him to keep it in the crate and only take it out as he sells it, and that he will very soon be able to sell it. If he says, No, I cannot sell it, leave him a crate anyhow; saying, I know you can sell it. Sell it for me, at such a price. I will run the risk. I will call around in a week or two and see what luck you will have.—After a while you call and find that he has sold the whole crate; and he will say, See here, Mr., I never saw honey sell like that. I kept it where every one who came into the grocery could see it. They say that one of those little boxes is just enough for tea or breakfast. Why, I could have sold,

easily, two such crates; next time you come round, bring me 3 crates; I will try more. You do so; he sells them and is now ready for 6 or 8 crates and will tell you that there is no trouble to sell such honey as that, for it sells itself. All a customer wants, is to see it. Now, my friends, you have made a market and a demand right here; and you can do the same with a dozen grocerymen that you have with this one, and the cry will be for more, and your name being on every box, your grocer will say that his customers come in and ask, Have you any more honey with Col. Mann's name on it, or Mr Williams' or Mr. Kepler's or Mr. Clifton's, as the case may be. You see, it is now known, and you will keep this market as long as you will put it up in an attractive form and in the most marketable shape; and as the demand increases, you will be able to secure a better price.

Now, do not think that the supply is in advance of the demand, for not one pound is used where there should be 1000. You say, how shall we accomplish this? I reply, by creating the demand. Can this be done? Most undoubtedly; when you open up new avenues of sale and enlarge the older ones, you will find honey on the table of the poor man and the medium liver, as well as the rich man. You will find at every meal, at the hotel where you stop, nice honey on the table, which now you never see. There is an increase of consumption and consequently an increased demand, and this you do by placing it in the hands of every grocer and provision merchant, even the confectioner, for it will not only look, but be nicer than his candy, and just as clean and neat for him to handle; and in this way you both stimulate a taste for honey, and at the same time create a market, thus the demand and consumption will increase, and where one pound was used, now 1000 will be sold. Never let a grocer keep any honey of your brand that has become dull looking or smutty; rather take it away and give him fresh in its place, or you may lose your reputation as a producer.

What I have just related has taken place, and can be carried out on a large scale, if we are only true to ourselves and offer it to the trade in the best marketable shape.—Your extracted honey should be put up, each kind by itself, the white clover, basswood, &c., and they retail very fast in jars, from jelly cups, &c., up to quarts, &c.—Label all with your name and the kind.

A word about the size of sections. I think we should have different sized sections; say 4¼x4¼, being 8 to a broad Langstroth frame; 4¼x5⅝, being 6 to a Langstroth frame and sections 5x6. The first holds about 1 lb., the second 1½ lbs., and the 5x6, say 2 lbs. A 10x12 glass will cut out 4 pieces for the 5x6 sections. I like these better than Heddon's 4⅛x6⅜, which I consider a bad size.

In regard to the supply, see what large amounts of honey will be exported from this country by the European demand. In the March number of the *Bee-Keepers' Magazine*, I notice that there is a very small supply of nice honey in New York now, and that there are purchasers advertising for extracted, white clover and basswood honey, and purchasing all they can get, for which they pay 22c. per lb., cash; and like it all the better if candied. Take this into consideration, with the 100 tons brought by Harbison, about one year ago, to New York city, in addition to the very large amount sent there from the Eastern and Western states, and still the market was good and this great supply did not break it. Does not the prospect look brighter? I certainly need say not, if we only remain true to ourselves, and keep our honey pure and unadulterated and put it into an attractive form upon the market.

Increase our home demand, and our pets (for whom we pay neither rent nor pasture, and who labor for us and board themselves,) will do the work for us, and put up our honey as neat and as nice, and better than it can be done by any other insect, or man even, for it is their province, and instinct given them by the Creator for a wise and good purpose, and for the benefit of mankind. Let us all work, therefore, to create this demand and market. Mr. Heddon says we must maintain an independence in the market, if we wish to succeed. This can be done by creating a demand, and the demand by an increased consumption. I advise all to read Mr. Heddon's article on "Marketing Honey." It is full of sound sense. I have read all his articles, for the past year or two, with much interest. He strikes at the root of all things, and gives many thoughts for the bee-keepers to digest. If what I have penned will produce any good, or stimulate our society to renewed energy in getting up honey in the most marketable shape, and to increase the consumption, I shall be well repaid.

A. FAHNESTOCK.

N. Y. City Bee-Keepers' Association.

The semi-annual meeting of this Association was held April 27th, in room 24 of Cooper Union, New York, J. S. Coe presiding.

Letter from W. S. Slocum read, stating his removal from Brooklyn to Red Bank, N. J., present duties and occupation making it impossible for him to act as secretary, and tendering his resignation. Accepted with expressions of regret, and Ehrick Parmly elected to the office.

Letter from Theo. F. Read, treasurer, read, tendering his resignation, as he could not be present at the meetings of the association and attend to the duties of the position. Treasurer's report read and accepted; but resignation not accepted. He is therefore continued in office with strongest expressions of his value to the association as treasurer, and as an active working member, and keen observer.

Minutes of last meeting read and adopted.

J. L. F. Smith spoke on Article III. of the Constitution relating to fees, and it was resolved that as the treasury is in good condition, and the expenses of the association small and likely to be fully met by the initiation fees of new members, that no further provision be made at present for fees from other sources. Funds in the treasury, $29.14.

The attendance was not large, but all took

part in the proceedings, and a number of regrets at inability to be present were received. The reports on wintering showed unusual success, in part owing to the favorable winter, but more to an increase of knowledge on the subject through our journals. J. E. Callbreath wintered 300 colonies without any loss. Others state marked success on a smaller scale; some wintering on summer stands, others in cellars.

The following statement from T. F. Reed, Brooklyn, April 26, 1878, was read: "On April 20, while handling my bees, I met with a strange incident. I had a weak colony which I wished to strengthen, and to that end removed two full frames of capped brood from a strong hive and placed them in the weak one. While I was thus engaged, the dinner bell rang, and in my haste I neglected to shake all the bees from one of the combs before placing it in the hive, and closed the hive and went to dinner. When I came out again I noticed bees fighting on the alighting board. I immediately suspected the cause of the trouble, and upon lifting out some of the frames saw the bees clustered upon the bottom board. I dispersed them with a little smoke, and looked for the queen but could not find her; stepping in front of the hive I noticed a knot of bees on the alighting board of an empty hive near by, and upon examination found it contained the queen. I separated her and she escaped from me into the hive. I opened the hive as soon as possible and found her surrounded by bees, which were trying to bite and sting her. I picked up the bees and queen, and after picking the bees off, I noticed that one of her wings was a little elevated; upon looking under it I saw a bee's sting sticking into her left side just behind the wing and a little below it. With considerable difficulty I managed to extract it, and the wounded side bled. I caged her until the 22d, when I liberated her and she was accepted. I saw her to-day running around on the combs. It is a young queen which I raised this spring, and I think she was fertilized before this took place. I have seen bees stung and die almost immediately, and supposed that this queen would, but she does not seem at all disposed to do so. I have never heard of a similar case. I am very sorry that I cannot be present at the meeting, but hope it will be lively and interesting." THEO. F. READ.

S. Cary, Roselle, N. J., remarks on purchasing bees and his success: "Lost half in wintering." Careful fall examination recommended, and other requisites to success.

The question of stimulating by feeding was discussed. Mr. Cook had not succeeded, Mr. Coe reported marked success, thereby securing surplus from earlier sources than he otherwise would have secured. Feed just enough to stimulate breeding. A trifle more in bad weather, and regularly as to time, but not so much that they will store any. All should be consumed in rearing brood.

J. Van Winkle, Jr., feeds by hanging a frame of honey outside the division board and the bees can take it as they require it. His experience is only of one year. Began with 5 colonies, increased to 17. All now in good condition but one, which had a drone laying queen. Advised to remove the drone laying queen and to strengthen by one or more frames of sealed brood, according to their strength to take care of it, and he would soon have a strong stock and a young queen presiding over it. Feeding can be done to best advantage by giving close attention to the weather, sources of supply, etc."

Mr. Coe—"The end desired is to bring bees in best condition for the white clover harvest, and described his feeder which he places on top of the frames; uses a quilt in place of a honey board. Begins feeding in February, a spoonful twice a day regularly, in bad weather a little more. Recommends all to have feeders and to use them judiciously. Feeds white sugar syrup about the thickness of honey; brings to a boiling point; sometimes put in a little soda. Puts on boxes the beginning of white clover harvest. Some succeed in getting honey stored from fruit blossoms by early feeding. Mr. Read is now experimenting to secure fruit blossom honey from the body of the hive, and will soon report. Bees will not breed much when not gathering stores. One season after white clover, fed three spoonsful a day to each hive, and increased breeding very much and never had such good fall success. One neglected comb, so full of bee bread that moths had not attacked it, I put in a strong colony, and in eight days they had cut it down nearly to the base of the cells, built it out, and stored in it eight pounds of honey. The planting of trees on the road-side and elsewhere for ornament, preference given to those yielding honey was advocated. Much can be done in this direction by the formation of village improvement societies. Basswood, tulip, and sycamore maple particularly recommended.

Mr. Knapp's experience extended over 17 years; has kept from 1 to 12 hives, and has hitherto pursued the box-hive system and killing, but now has 15 colonies, which he thinks combines all the good features of the various hives exhibited at the American Institute. He entered upon a detailed description, which, in the absence of a hive or model, was not very clear. It was therefore proposed by Mr. Crouch that hereafter, all who desired to explain the hive they used, or anything employed in the apiary, bring a model; and Mr. Van Winkle further suggested that at our next annual meeting, each member bring a model of the hive he uses, which met the approval of all present.

This closed the meeting, and the members then held an informal talk on subjects relating to the apiary.

EHRICK PARMLY, Sec'y. *pro tem.*

Albany Co., N. Y., Association.

The bee-keepers of Albany county met at Clarksville, May 11, 1878, and organized a county association. The constitution and by-laws of the North-Eastern Association, were offered, voted upon, and adopted as those of the organization.

The following officers were elected for the ensuing year: President, H. W. Garrett; Vice-President, A. Snyder; Secretary

T. F. C. Van Allen; Treasurer, James Markle. The next convention will be held during the coming fall at Chesterville, Albany county at such time as the executive commitee shall decide upon.

T. F. C. VAN ALLEN, Sec'y.

North-Eastern Wis. Convention.

The Bee-keepers called to meet at Appleton, April 11, assembled as advertised. A. H. Hart was chosen Chairman, D. Huntly, Secretary.

Mr. Hart stated the object of the meeting in a few, well-chosen remarks.

A report was then taken, and a pleasant discussion followed.

Mr. Bishop produced from 58 colonies, in the spring, 9,000 lbs. of honey; 4,300 box, 3,000 extracted, and the rest unfinished comb. Wintered in house.

Mr. Potter, of Calumet Co., obtained 350 lbs. from one hive; 260 lbs. comb, 90 lbs. extracted. Bees not allowed to swarm. He wintered in house, with wire-cloth over the entrance. Counted 30 dead bees, in the spring, from 1 hive.

It was the general opinion that many bees were lost in carrying the dead ones out. Comb foundation was used with the greatest success by many; but it was absolutely necessary to have the wax pure.

It was universally acknowledged that the price of honey must be low, in order to compete with preserved fruits and syrups, and that then there was an almost unlimited market at home, which was the proper and most profitable place to sell.

Mr. Hart stated that bees, this season, commedced bringing in pollen the 30th of March.

Mr. Maryatt gave an instance of a colony that was chilled till apparently lifeless, and was restored by gentle heat; and from which the owner now has 120 colonies.

Chas. Wolcott exhibited a model hive.

Mrs. Dunham, a bee-feeder, of her own invention; also a division-board.

Mr. Bishop, comb foundation.

The North-Eastern Wisconsin Bee-Keepers' Association was then organized, and the following officers elected:

A. H. Hart, of Appleton, President.
R. Bishop, of Sherwood, Vice President.
J. L. Kittell, of Menasha, Treasurer.
Frances Dunham, of Depere, Secretary.

To meet semi-annually. The next meeting to be held at Depere, Brown Co., Wis., Tuesday, Sept. 3.

All county societies are requested to send, at least, 2 delegates; and, if possible, to have their meetings previous to Sept. 3.

There will be important papers read, and discussions upon the proper mode of wintering bees in this northern climate; also the improvement of the home market, &c.

It is earnestly requested that all interested in bees should join the Association, and come prepared to give reports of their production of honey for the season, so that an estimate may be formed of the amount of the summer's yield, and prices settled accordingly. FRANCES DUNHAM, *Sec'y*

Western Ill. & Eastern Iowa Society.

The third semi-annual meeting of the Western Illinois Bee-keepers' Society was held at Burlington, Iowa, May 7 and 8, 1878.

The meeting was called to order at 10, a. m., by the President, D. D. Palmer, of Eliza, Ill. The attendance of members was quite large, and exceeded that of any previous meeting. During the day, 49 new members were added to the roll, as follows:

J. A. Thomas, Mt. Pleasant, Iowa.
Alvah Reynolds, Oneida, Ill.
E. D. Godfrey, Red Oak, Iowa.
George Parks, Muscatine, Iowa.
W. F. Dougherty, Mt. Pleasant, Iowa.
C. F. Healy. Muscatine. Iowa.
H. F. Poggenfahl, Iowa City, Iowa.
S. O. Thomas, Burlington, Iowa.
William H. Smith, Burlington, Iowa.
H. D. Walker, Mt. Pleasant, Iowa.
J. E. Chapin, Oquawka, Ill.
D. Rider, Fairfield, Iowa.
A. Simons, Fairfield, Iowa.
H. M. Noble, Swedesburgh, Iowa.
J. Valentine, Burlington, Iowa.
L. Allen, Wilton, Iowa.
S. J. McKinney, Burlington, Iowa.
G. W. Trimble, Mt. Pleasant, Iowa.
O. Clute, Keokuk, Iowa.
Peter Ness, Burlington, Iowa.
J. Wilson, Springdale, Iowa.
C. T. Penrose, West Branch, Iowa.
Miss Lottie Brayman, Monmouth, Ill.
Loren Hanchet, Burlington, Iowa.
E. A. Hanchet, Burlington, Iowa.
S. E. Taylor, Burlington, Iowa.
Richard Lord, Muscatine, Iowa.
W. H. Furman, Cedar Rapids, Iowa.
R. A. Parker, Abingdon, Ill.
W. G. Latimer, Kirkwood, Ill.
Harmon Brown, Galesburg, Ill.
William E. Bell, Dover, Iowa.
Abner Hanna, Middletown, Iowa.
Charles Whitlock, West Point, Iowa.
John Danley, Monmouth, Ill.
Paul Lange, Burlington, Iowa.
E. T. Gardner, Burlington, Iowa.
Mrs. E. C. Crane, Burlington, Iowa.
Mrs. I. P. Wilson, Burlington, Iowa.
Dr. D. G. Campbell, Keithsburg, Ill.
S. H. Black, Sciota, Ill.
N. Grigsby, Blandinsville, Ill.
G. Kraetzer, South Chicago, Ill.
Thomas G. Newman, Chicago, Ill.
Mrs. William Mercer, Burlington, Iowa.
H. J. Elliott, Burlington, Iowa.
J. K. Brown, Morning Sun, Iowa.
J. C. Shirk, Morning Sun, Iowa.
B. O. Everett, Toledo, Ohio.

The following address of welcome was given by Dr. I. P. Wilson, of Burlington, Iowa:

Mr. President, Ladies and Gentlemen:

It affords me real pleasure to welcome the members of the Western Illinois Bee-keepers Society to the Orchard city—the city of flowers. Burlington does not stand, like Rome, upon her *seven*, but *three* hills, and these are covered all over with blossoming trees and sweet-scented clover, that furnish a bountiful supply of sweetness for the millions of little winged workers, that find a home in our city. And when these supplies fail, they wing their way across the "Father of waters," and gather from the low lands, along the shore of your "sucker" state, new supplies, in time of need.—Truly, this is a fitting place for a bee convention. I am not aware that a meeting of this kind was ever before held in our city. The present occasion is, therefore, one of peculiar interest, especially to those of us who have not had the privilege, hitherto, of meeting in conventions of this kind.

The time has now come when none but "old fogies" work single-handed and alone.

We can no longer afford to get along without our journals, and our conventions.—The time has come when knowledge must not be hid under a bushel, nor locked up in human hearts. Anciently, if a man made a valuable improvement or discovery, he regarded it as private property. He did not seek the columns of a journal or the ears of a convention, to make known to others the advantages to be derived from his improvement or discovery. He did not seek an exchange of thoughts and experiences, as we do to-day.

The eager faces now before me indicate that you are here for a purpose, and I feel warranted in saying that your purpose is not purely a selfish one. While you are here to receive the benefits to be derived from the experiences of others, you are also here for the generous purpose of imparting knowledge.

It seems to me that we may not, as a generation, boast of having more brains than did our fathers of a few centuries ago, but we *may* boast that we live in an age of progression, that superstition, selfishness and secretiveness do not reign as once they did. Men, now, delight more in philanthrophy—more in the brotherhood of man. There is something pleasing in the thought of helping one another. Imparting useful knowledge to others does not impoverish us, but rather it enriches our hearts-; not only so, but the heart of him who receives the benefit is melted into kindness and gratitude; and so, giving and receiving combine to gladden our hearts and make us happy.

Ladies and gentlemen, I feel that the time of this convention is precious, and I ought not occupy your attention with extended remarks. The "*Mysteries of Beekeeping*" is, to us, a fascinating study.—How many useful lessons our busy little workers may teach us. The valuableness of time, the importance of energy and activity, and the great good that may be accomplished by persistently doing, little by little, what our hands find to do, are the lessons taught us by their every day lives.

"How doth the little busy bee
Improve each shining hour,
And gather honey all the day,
From every opening flower."

Our little pets are very diminutive, as regards their physical proportions, but as workers, and as *stingers* they are immense. But every rose, you know, "has its thorn," so has every bee its sting. Handle the rose with care, and enjoy its rich fragrance, and its cruel thorns may not pierce your sensitive nerves. So in handling your bees, do it with confidence, with gentleness, and with care, and the poor little creature's only weapon of defense will seldom pierce your brow.

Ladies and gentlemen, in behalf of the citizens of Burlington, and especially the bee-keepers of this city and vicinity, allow me to greet you, and bid you *welcome, welcome, thrice welcome* to our city.

Motion carried that a committee of three be appointed as a committee of questions and arrangements, which were appointed, as follows: Dr. N. H. Derr, L. H. Scudder, and O. Clute.

On motion, the President and Secretary were added to the committee as *ex-officio* members.

The remainder of the forenoon was occupied by parties having articles on exhibition, in explaining the same. The following were exhibited: Langstroth bee-hives and section boxes, by Kirk & Abbott, Muscatine, Iowa. Tool box, for use in the apiary, by D. D. Palmer, Eliza, Ill. Prize sections and comb foundation, (home made), by L. H. Scudder, New Boston, Ill. Centennial bee-hive, by H. F. Poggenpohl, Iowa City, Iowa. Section boxes, honey, queen cages, grape sugar, &c., by T. G. McGaw, Monmouth, Ill. North Star Hive, Everett's honey extractor, with copies of the various bee books and publications, by T. G. Newman, Chicago, Ill. Extracted honey and frame for nailing section boxes, (Harbison), by Dr. N. H. Derr, Keithsburg, Ill. Model of wire cloth window, for letting out, and keeping out bees from a room, by Will M. Kellogg, Oneida, Ill. Candied honey and sample of glucose, by Chas. & C. P. Dadant, Hamilton, Ill. Bingham smoker and Langstroth hive, by Geo. Bischoff, Burlington, Iowa. Dove-tailed section boxes, from Barker & Tillman, Defiance, Ohio; presented by Dr. I. P. Wilson, Burlington, Iowa. Advance Bee hive, J. C. Shirk, Morning Sun, Iowa. Concord bee hive, by Krætzer Bro's, South Chicago, Ill.

The afternoon session met promptly at 1:30, p. m. The Secretary read a short history of the Society, from its founding to the present time, and an abstract of its proceedings.

Motion carried that Eastern Iowa be added to the name of the Society.

The following questions were then discussed:

ITALIANS *vs.* BLACKS.

Dr. N. H. Derr.—I prefer black bees.—Italians stick to the combs; the blacks are much the easiest to get off; but we can find the queen easier among Italians. It is claimed that the Italians defend their stores the best; I think the blacks beat them, at that. I think blacks produce finer honey than the Italians; they breed the best, and are fully equal to the Italians. Italians get better care, hence give better results.

Chas. Whitlock.—Many get humbugged; get hybrids in place of pure Italians, thus condemning the Italians. I found that my Italians had plenty of honey, while the blacks had but little in time of little honey flow. Italians are inclined to build comb upwards. I think light queens are as good as dark ones.

C. P. Dadant.—I think the hybrids are better honey gatherers—blacks scatter their honey. Italians pack it close, fill up brood chamber and crowd out the brood.

L. H. Scudder.—I think Mr. Derr has been deceived as to the quality of honey.—Italians fill the cells nearer the caps than the blacks, but there is no difference in the honey.

D. D. Palmer.—Italians are a trifle larger than blacks. We should space their combs a little wider apart. A small cluster of Italians will defend their hive as well as a much larger cluster of blacks. In a dry

time my Italians bother me, while out searching for honey, while Mr. Derr's blacks did not bother honey close at hand.—I think the Italians are worse to rob than blacks.

T. G. McGaw.—At my place, the blacks are the first to go "nosing" around for stolen sweets.

Dr. I. P. Wilson.—I had a stock of Italians rob out 2 or 3 neighbors' stocks; stored the honey in boxes, while the rest of my stock were quiet.

TO PREVENT NATURAL SWARMING, AND TO SECURE THEM IF THEY DO SWARM.

T. G. McGaw.—I usually divide from the middle to the last of June, put on boxes when clover comes, and clip the queen's wing, if a swarm comes out; cage the queen, move old hive away, put a new one in its place, put caged queen under quilt of new hive and release after the swarm returns. Give old stock a young queen, or capped queen cell. I don't believe in dividing too early.

D. D. Palmer.—I have tried clipping queens; don't like it. My prevention is to give plenty of surplus room, comb foundation, ventilation and shade. Think it a waste of time to return a first swarm. I keep an average of one-half from swarming at all.

IN WHAT KIND OF A BOX SHALL WE PUT UP COMB HONEY?

D. D. Palmer.—First, look to your market. Who is to buy and consume your honey? If your neighbors, almost any shape will do. Cut out in buckets is a good way; but I prefer extracted—no wax for my stomach. Put plenty of honey on your table; make it free to your neighbors when they come in. In the smaller towns, light sections without glass; in the large cities, where they must and will have a fancy article, there is no sale for 6 lb. boxes and the like; it must be nice, smooth, light sections, glassed on both sides. This package can be delivered around the cities free from dirt and insects. Very few people in large cities go to the stores to get their honey; it is brought to them.

T. G. Newman.—I agree with Mr. Palmer. He has said section boxes *must* be glassed for the city trade. This is in favor of the producer and against the consumer, but if they *will* have it glassed, it is not our fault. Always put on glass after it is filled; it makes a neater and cleaner appearance.

C. P. Dadant.—We sold our honey in St. Louis market with the crate glassed, sections unglassed.

QUEEN RAISING.

"Are queens grown by bees, in natural preparation for swarming, any better than those grown in strong colonies that are forced to raise queens?"

T. G. McGaw.—I have seen just as good queens raised artificially as by natural means.

Chas. & C. P. Dadant.—Would prefer large to small queens. We see no difference, as to prolificness, in dark or light colored queens. We think dark comb produces dark queens, as a rule. We also think the color of honey used has much to do with the color of bees.

W. H. Furman.—I take a full Langstroth hive, divide into 4 spaces, fill with strong combs of brood, and raise my queens that way, and find no difference in prolificness of queens, as to size. Have seen light queens put in black colonies, and turn dark in 48 hours. Would as soon use nuclei to raise queens as full colonies.

WHAT SHALL BE DONE WITH A COLONY HAVING A FERTILE WORKER?

E. D. Godfrey.—Break up the colony, and distribute the combs to other colonies.

W. H. Furman.—Change places with some other colony.

C. P. Dadant.—If a weak colony, break it up; if a strong one, try to save it. Have seen 10 or 12 fertile workers laying at once. Give frames of hatching bees, cage a queen in the hive for a time, then release.

ARE TRIANGULAR BLOCKS, WITH GROOVES CUT IN THE UNDER SIDE, OF ANY REAL VALUE AS MOTH TRAPS?

H. F. Paggenpohl.—I think they are valuable, but keep strong colonies and there is no need for moth traps.

IS IT WISE TO FEED GRAPE-SUGAR TO STIMULATE BROOD REARING, DURING THE INTERVAL BETWEEN FRUIT BLOOM AND WHITE CLOVER?

Richard Lord.—I don't like it, as it fills up the cells with granulated sugar.

C. P. Dadant.—Grape-sugar contains so much matter besides sugar, that when added to wine it injures it; hence, we think it is not good for bees.

At 8 p. m. the session was favored with a lecture from T. G. Newman, of the AMERICAN BEE JOURNAL, Chicago, Ill., on "Honey as Food and Medicine."

SECOND DAY'S SESSION.

Called to order at 8 p. m.

ADULTERATION OF HONEY.

A resolution was presented by Chas. & C. P. Dadant, of Hamilton, Ill., for the appointment of a committee of three, to draft a petition to Congress, to have laws passed against the adulteration of honey and all sweets. This committee is to correspond with the secretaries of all the bee-keepers' societies in the United States, asking them to unite in getting signers to the petition.—The expenses of this committee to be taken out of the funds of the Society.

This resolution drew out an animated discussion, after which the resolution was adopted and the committee appointed as follows: Chas. Dadant, Hamilton, Ill.; T. G. Newman, Chicago, Ill.; O. Clute, Keokuk, Iowa.

WHICH SHALL WE PRODUCE, COMB OR EXTRACTED HONEY?

N. H. Derr.—I think we should produce either, according to our market.

O. Clute, of Keokuk, Iowa, read the following essay:

THE DEMAND FOR COMB HONEY?

Some producers of honey think the de-

mand for comb honey will decrease, and that extracted honey will almost supersede it in a few years; hence, in some quarters there is a tendency to produce only extracted honey. It is well to look at this subject carefully, and not allow ourselves to be led into unwise methods of work, by conclusions formed hastily and on insufficient premises.

1. I have not a word to say against extracted honey. When it is well ripened in the hives before extracting, it is, without question, a superior article. Such good extracted honey, put up in convenient and elegant packages, will continue to sell readily. The demand for it ought to increase, and will increase.

2. But a very large part of the consumers of honey have a strong prejudice against extracted honey. As it comes into the market in the same shape as *strained* honey, and as these consumers are not familiar with the methods of bee-culture, it is only natural that they should rank it with strained honey. This prejudice is, of course, ill-founded. It is a prejudice, which is for the benefit of all honey-producers to labor to remove. Nevertheless the prejudice exists, and will continue to exist in a decreasing degree for some time to come. While it exists, it will keep up a demand for comb honey, which producers will do well to supply.

3. After some years, the consumers of honey will generally come to understand that well-ripened, extracted honey is a most excellent article, that it is just as pure, and of just as good flavor as comb honey of the same kinds. When consumers generally learn this, will the demand for comb honey largely decrease, and finally cease altogether? To this question not a few producers of honey are inclined to say, yes.—But there is another element of the problem, which, I think, they do not sufficiently consider, an element which, it seems to me, will not only keep the demand for comb honey as great as at present, but even increase it much beyond what it now is.—Let us for a moment consider this element. A purchaser goes to a merchant to buy cloth; he is shown different pieces, among which he finds two, of about the same quality, as to durability, but one of them is of finer texture and more elegant finish than the other. This finer piece does not promise to be quite so durable as the other, and it is somewhat higher in price. But in a very large number of cases, the purchaser will choose this more expensive article.—Durability is, with him, not the only quality by which he judges the value of cloth. He wants a garment that will be neat and attractive, as well as durable.—Hence, he is willing to pay a higher price for the fine goods of elegant finish.

A man wants to buy a cow. He is shown a number of animals of about the same age, size, and quality as milkers. He looks them all over, and is sure to pick out the cow that has the points that make an animal beautiful in the eyes of a *connoisseur* of cattle. Other qualities being as good, he prefers the animal that is beautiful, and willingly pays a higher price for such animal. The stock-breeder soon finds that beauty is a marketable quality.

The house-keeper goes to her grocer to buy butter for her table. She looks over his stock. Some of it is not of good color, and has a mussed, untidy look. She passes over this with contempt; but when she sees bright, yellow rolls, solid, neatly shaped, nicely stamped with an appropriate design, she is at once desirous of trying it, and if it is not positively poor in quality, she will buy it. It may not be quite so sweet and delicate in flavor as some of the mussed butter, but its better appearance makes it command, readily, a higher price. High color has become, in some butter markets, so important that artificial coloring matter is freely and openly used to give the butter the desirable tint. The color, the appearance, and the beauty of the butter is a most important item, and has a ready market value. This is so well understood that a large number of dairymen are now turning their attention to the production of a really good, highly colored, often artificially colored butter, which they send to market in ¼ lb. ½ lb. and 1 lb. *prints*, and for which they get a gilt-edged price.

The strawberry is one of the most popular fruits in the market. In the last 25 years its consumption has increased immensely. It is produced in the East, West, North and South. It is found in every market, even in the smaller villages. Let any purchaser go to a fruit stall to select berries for the tea-table, and they will choose those that are largest, plumpest, best-colored, and most beautiful. It is a well-known fact that often strawberries that are most delicious in flavor are not good market varieties, because they are not so beautiful as some other varieties of inferior flavor. Most of the purchasers understand that they are sacrificing something of delicate flavor to beauty of appearance; yet, they willingly pay a higher price for the less delicate fruit.

Indeed, the beauty of the articles which appear upon our tables is an important point with us all. When we sit at our meals, we like to satisfy, not only the appetite for food, but also that love of beauty, which is found more or less in all. In the most humble homes we find the good housekeeper has a commendable pride in the attractive appearance of her table.—The spotless linen, the few articles of glass and silver, the few flowers that she has found leisure to cultivate, lend a ray of beauty to her humble board; and she serves the flood, prepared by her own skillful hands, with as much elegance as she can command. Larger wealth gives greater facility for gratifying this love of beauty, and the tables of the rich often charm the eye with their array of china, and glass, and silver, from the hands of the most artistic workmen, and with viands prepared by cooks with whom their profession has become almost a fine art.

4. There is, perhaps, no article for the table that is more beautiful than the best comb honey. The delicate comb, of fairy-like structure, the crystal-white or golden-tinted honey, of delightful fragrance, are most attractive to the eyes of all. It seems to me that this element of beauty in comb honey will not only keep the demand for it as great as it now is, but as people become

more cultivated and more wealthy, will increase the demand to a large degree. After people become fully educated to the real merits of extracted honey, and after such honey has come into very wide use, the demand for comb honey will continue and increase. Many people will be willing to pay a higher price for it than for extracted honey.

It seems to me that the premises upon which this conclusion is based are correct, and that the conclusion inevitably follows from the premises. It seems to me that the demand for comb honey is a legitimate demand, based upon the intrinsic qualities of the honey; that this demand will be a constant and increasing one.

If this is true, it is wise for producers of honey to prepare to supply this demand in such a way as will be satisfactory to the consumers and profitable to the producers. What this satisfactory and profitable way is I leave to be decided by those who have had wide and successful experience.

Keokuk, Iowa, May 6, 1878. O. CLUTE.

C. P. Dadant.—We favor extracted honey. Rich people can afford to buy nice comb honey, at a fancy price, in fancy boxes, glassed. For the working class, we must put it up without glass and learn them to eat extracted honey—a cheaper and more wholesome article.

HOW TO PREVENT AND CURE ROBBING?

J. A. Thomas.—Place asparagus or other grass over the entrance.

Will M. Kellogg.—Don't handle your bees when they can get nothing from the flowers; give them a small entrance at such a time, and leave no sweets exposed to get them demoralized. I use cold water to break up robbing.

HOW TO CARRY BEES THROUGH SPRING?

Dr. I. P. Wilson.—Keep them from flying as much as possible, shade and keep from the wind; face the hives North; they are less liable to come out and get chilled.

Will M. Kellogg.—Keep them in their winter quarters, as long as we can possibly keep them quiet.

THE DRAWING OF PRIZES

was next in order, 9 more prizes being added at this meeting, resulting as follows:

Prize 1—A full stock of Italian bees, with an imported queen, given by Charles Dadant & Son, Hamilton, Ill.; drawn by L. H. Scudder, New Boston, Ill.

Prize 2—An imported queen, given by Charles Dadant & Son; drawn by G. Krætzer, South Chicago, Illinois.

Prize 3—An imported queen, given by Hardin Haines, Vermont, Ill.; drawn by T. G. Newman, Chicago, Ill.

Prize 4—A queen, bred from an imported Cyprian queen, given by Hardin Haines; drawn by H. D. Walker, Mount Pleasant, Iowa.

Prize 5—A tested Italian queen, given by T. G. McGaw, Monmouth, Ill.; drawn by Dr. D. G. Campbell, Keithsburg, Ill.

Prize 6—A dollar queen, given by T. G. McGaw; drawn by E. D. Godfrey, Red Oak, Iowa.

Prize 7—One dozen Sweet Home raspberry plants, given by D. D. Palmer, Eliza, Ill.; drawn by H. J. Elliott, Burlington, Iowa.

Prize 8—One plant each of the following named raspberry plants—Doolittle, Mammoth Cluster, Golden Thornless, Seneca, Miami, Ganargna, Brandywine, Philadelphia, Lumb's ever-bearing, Davidson's Thornless and Brinkley's Orange, given by D. D. Palmer; drawn by Miss Susan R. Meadows, Abingdon, Ill.

Prize 9—A double portico Langstroth bee-hive, complete, cap covering both porticoes, honey board, full set of section honey boxes, with shipping crate for same, given by Kirk & Abbott, Muscatine, Iowa; drawn by W. H. Furman, Ceder Rapids, Iowa.

Prize 10.—A Langstroth hive, given by George Bischoff, Burlington, Iowa; drawn by M. T. Sharp, Oquawka, Ill.

Prize 11.—A tested queen, or 2 settings of buff Cochin or Bramah eggs, given by Charles Whitlock, West Point, Iowa; drawn by D. D. Palmer, Eliza, Ill.

Prize 12—A setting of partridge Cochin eggs, given by H. D. Walker, Mount Pleasant, Iowa; drawn by D. Rider, Fairfield, Iowa.

Prize 13—A pair of Pekin ducks, given by W. H. Furman, Cedar Rapids, Iowa; drawn by N. Grigsby, Blandinsville, Ill.

Prize 14—Two dozen Brandywine raspberry plants, given by Paul Lange, Burlington, Iowa; drawn by Harmon Brown, Galesburg, Ill.

Prize 15—A two-story Concord hive, given by G. Krætzer, South Chicago, Ill.; drawn by Alvah Reynolds, Oneida, Ill.

Prize 16—A fourteen frame Langstroth hive, given by Richard Lord, Muscatine, Iowa; drawn by S. E. Taylor, Burlington, Iowa.

Prize 17—Two choice roses, given by Peter Ness, Burlington, Iowa; drawn by J. Valentine, Burlington, Iowa.

Prize 18—"Manual of the Apiary," given by T. G. Newman, Chicago, Ill.; drawn by Dr. N. H. Derr, Keithsburg, Ill.

After the drawing of prizes, Dr. R. L. Robb, of Burlington, Iowa, gave the following analysis of grape sugar, proving the article to be adulterated and unfit for use.—

SAMPLE A.—John Long—Partial Analysis.—This sample, as seen under the microscope, contains dextro-glucose starch (unchanged), pipe-clay, and a very few particles of pollen from buckwheat and sugar acari. By heat test. Rotary power the same at all temperatures plus 56°. *Hence contains no levulose.*

SAMPLE B.—Chas. Dadant & Son—White clover, crop of 1877.—Heat test at temperature 15° C. minus 25°; at 52° C. minus 13°; at 90° C. the sign changes to plus; hence contains levulose and glucose. The rotary power of glucose does not change at any temperature.

A vote of thanks was given the Dr. for his remarks.

The discussion of questions resumed.

HOW MUCH, AND WHEN SHALL WE USE COMB FOUNDATION?

Will M. Kellogg.—Would only use narrow strips for guides and starters in section boxes, and narrow strips for guides, or full sheets of it in the brood chamber, used in medium or light colonies, or in outside frames of strong colonies. Would never hive a swarm on to full sheets of comb foundation. Like foundation very much.

L. C. Axtell.—In using comb foundation in a heavy flow of honey the bees thin it out nicely; in a light flow, they leave the "fish bone" in the centre. Would only advise its use in the brood chamber.

Adjourned to 2 p. m.

AFTERNOON SESSION.

SECTIONS AND SEPARATORS.

"How shall we place the sections on the hives, and what shall we use as separators to secure straight combs?"

T. G. Newman exhibited a Comb Honey Rack, filled with Prize Boxes, so constructed, that, by removing a wedge, all the sections and tin separators are loose and free to take out. He favored this style of using Prize Boxes. Tin is, by far, the best material to use for separators; paper, as proposed by some, will not do; bees gnaw it to pieces.

Others favored using an upper story, with the sections fitted into larger frames.

WHAT IS THE BEST METHOD OF ITALIANIZING AN APIARY?

E. D. Godfrey.—Buy an imported queen and raise your own queen, or buy one dollar queens.

D. D. Palmer, would use about the same plan.

DO TOADS EAT BEES?

T. G. Newman.—Toads *do* eat bees; there can be no doubt of it. It is so reported from almost every section of the country.

N. H. Derr.—Have seen toads catch bees, and once saw a fish catch a bee.

HOW CAN WILD BEES BE CAUGHT?

D. D. Palmer.—Place an empty box or hive near the location of wild bees; have a hole in it, with a tube run in near the centre of the box. Place sweets in the box, and they will find it and fill the box. Leave the tube out the first day; next day, catch the box full, then remove to a new location and give them some brood.

IS A BEE HOUSE PREFERABLE TO A HIVE IN THE OPEN AIR FOR THE PRODUCTION OF HONEY?

J. A Thomas.—I prefer the hive, by all means. Have tried the house business.

D. D. Palmer.—For queen raising, the house does well; otherwise, not.

CAN TWO LAYING QUEENS BE KEPT SUCCESSFULLY IN THE SAME HIVE?

Chas. Whitlock.—Years ago I would have said no; think differently now. Have had a black and Italian queen in the same hive for several weeks; experimented with it, had queens in two cages, and after 48 hours put both in one cage; after a time I released both, and kept them both in the same hive for over 3 months.

WHAT IS THE BEST METHOD OF EXTRACTING HONEY, THE BEST PACKAGE FOR MARKETING IT, AND HOW SHALL WE INCREASE THE DEMAND FOR IT?

N. H. Derr.—Use a two-story hive, and put on an upper story as soon as honey flows freely; take out full combs, put in empty ones, take to room and extract; and so work with all your hives. Don't extract till most of the comb is capped over.—Would ship to a distance in barrels, and would put in stone jars for home trade.

O. Clute.—Mr. Dadant uses tin pails for shipping and selling extracted honey.

IS IT ADVISABLE TO PAINT THE INSIDE OF A HIVE.

Several thought not.

The following resolutions were presented and unanimously adopted:

Resolved, That we appreciate the kindness of the proprietors of Turner Hall for generously giving us the free use of their hall for our sessions, and that we thank them for the same.

Resolved, That the hearty thanks of the members of this society are tendered the citizens of Burlington for the cordial hospitality extended to us at this meeting.

Resolved, That the genial presence of Thomas G. Newman, the able editor of THE AMERICAN BEE JOURNAL, has added much interest to our meeting; that we tender him our thanks for his able address on "Honey," and that we commend him and his journal to the good favor of all bee-keepers.

Resolved, That Thomas G. Newman be appointed a committee to see the commercial editors of the Chicago dailies, and represent to them the importance of quoting *extracted* honey in their reports.

Resolved, That the earnest and efficient service of our able Secretary, William M. Kellogg, deserves, and hereby receives our most grateful recognition and thanks, and that we hereby authorize our Treasurer to present to him, in our behalf, an imported Italian queen bee, to be selected by Mr. Kellogg.

The society adjourned to meet at New Boston, Ill., October 12, 1878.

D. D. PALMER, *Pres't.*
WILL. M. KELLOGG, *Sec'y.*

Southern Kentucky Convention.

This Convention met at Glasgow Junction, Ky., on May 7th, and was well attended.

Meeting was called to order by Dr. N. P. Allen, at 10 a. m. After the reading of the minutes of the last meeting, which were approved, questions of general interest were asked by those desiring information, and answered by those who had experience.

Judge Dulaney asked how much cold it would take to kill a queen.

Dr. Allen said they could not stand much cold or neglect; in cold weather they ought to keep covered by the other bees; the older the queen the more cold she could stand; they should be put in the brood nest to keep them from being neglected, and explained the mode of raising queens, answering all questions pertaining thereto.

Mr. W. Cook wanted to know why the bees brought out so many bees and threw them away. Judge Dulaney stated that he had examined those that were brought out and thrown away and always found that they were in some way or another imperfect and were thrown away because they were of no service.

The following communication from Thos. G. Newman was read and ordered printed with the minutes:

MARKETING HONEY.

COMPANION APIARISTS:—If there is one subject of greater interest than another to every keeper of bees, throughout the length and breadth of the country, that subject is—"How to put up our Honey, in order to *command* the highest market price."

Heretofore, we have spent our time at Conventions, discussing such topics as the following: "What hive shall we use?"—"Which race of bees is the best—the natives or Italians?" "What extractor shall we adopt?" "Shall we winter our bees in or out of doors?" "Shall we build bee-houses?" and many others—all important and proper—but of vastly minor importance to that of "How shall our Honey be prepared for the Market, in order to *command* the highest price?" Truly wise was the remark of "one of old:" "These things ought ye to have done, and not to have left the other undone!"

Since last spring, the prices of honey has been steadily tended downward. Amidst *all* this depression, alike common to all products, what held up so unwaveringly the price of that honey prepared for the market by those "Kings of the East,"—Capt. Hetherington, G. M. Doolittle, N. N. Betsinger, C. R. Isham, and others? The

answer is—unexcelled quality, single-comb boxes and uniformity in packages!

In order to sell honey, it *must be attractive!* The large boxes of "yesterday" have passed into history—they are now required no more—while the "rising sun" of promise is Prize Boxes, in crates containing one dozen of these unicomb packages.

We are fond of "*object lessons*," and to enforce this thought, we have a few facts that have, within a month, come under our own notice. As the *facts* are all that we require on our lesson board—the party shall be nameless, as well as the State in which he resides—albeit he is something of a bee-keeper, and withal a good man; and if many may profit by his experience, we feel sure he will not object to being placed before the "class," to-day.

Our friend informed us that he had sent us some 600 pounds of comb honey, desiring us to dispose of it for him, to the best advantage.

It was packed in straw, surrounded by inch board slats; each package weighed, say from 50 to 75 lbs. The straw preventing the Railroad employes from seeing what the boxes contained, of course, they pitched and threw them about as they usually do such packages, until they had broken down three-fourths of the combs, and got them to leaking quite badly. Then they tore away the straw and helped themselves generally to the "sweets" therein contained. Of course, it was received in a deplorable condition. Arriving at the Store just as we were closing up for the night, it was carefully laid in single file on the floor till morning, when something like 25 lbs. of it stood in a pool on the floor. We proceeded at once to unpack it, and upon discovering how it had been prepared for the market, we were not astonished at the waste and leakage, though we were pained to see it.

Old starch and glass boxes, and such as could be packed up around any country grocery, had been given to the bees, in which to store their "surplus" honey.—They presented a varied and ludicrous appearance. No care had been taken to have the combs built straight, nor had the bees indulged in that kind of luxury. A few surplus, shallow frames had been used, but even they contained combs built so crooked as to be inseparable.

The boxes varied in height, from 3 to 7 inches, and in size, from 4 inches square to 2 feet square, or its equivalent, varied by size and shape. We will describe one of them accurately: It is 1 foot square and 3 inches high. One of its combs being 12 inches long, 3 inches high and 2½ inches thick. Something like a dozen of the largest combs are candied solid, and all are irregular and very uninviting. Had this Honey been put up in the 5x6 one-comb boxes or sections, and crated, one dozen in a crate, it would have brought, at least, 10 cents per lb. more, and the leakage of one hundred pounds would have been saved. The glassed boxes or crates would have permitted the Railroad men to see what it contained and they would have handled with more care. From $60 to $80 was squandered in this one transaction!

Let these *facts* enforce the necessity for unicomb boxes and uniformity in packages and crates. All will readily see that it would have been far more profitable to the producer, and infinitely more attractive to the consumer, had it been properly prepared for the market.

To cure this evil, let the East and West, the North and South unite in the demand that one-comb boxes or sections of uniform size be everywhere used, and when shipped to market, let it be done in the Prize Crate. Let us study uniformity and attractiveness, and everywhere enforce it.

In New York, white clover, comb honey, of the best quality, is quoted in Prize Boxes and Crates at 25c. per lb., while precisely the same kind, grade and quality, in 4 to 6 lb. boxes, is quoted at 21c. per lb.; a difference of 4c per lb. in favor of the former!—The reason is obvious. Small, single-comb boxes or sections will sell at retail, at least, ten times as fast as the 6 lb. boxes—hence the demand for them. This is a powerful argument, and one that touches the pockets as well as the pride of bee-keepers, and should lead them to right conclusions.

The great honey marts of the country have closed out all their stocks! No first-class honey can now be obtained, either in the East or West—only the undesirable lots remain unsold, and even these are getting scarcer every day. If we will but meet the requirements of consumers, there need be no trouble about selling all the honey that can be produced on this Continent. The demand must and will increase yet a hundred fold, and peradventure a thousand fold within a short time. Aye, even now

"That good time is coming,
It hasteth nigh."

Extracted honey should be put up as attractively as comb honey, for it is just as good, just as useful, and just as desirable as when in the comb. The world needs information on the subject of Honey, and its uses; and to us, perhaps, is given the duty of imparting that knowledge. Let us, therefore, see to it that our work is done promptly and well. Your friend and co-laborer. THOS. G. NEWMAN.

Several communications were then read, after which the books of the Association were opened for membership, when the following gentlemen joined the society: Judge W. C. York, G. T. Parker, Thos. McGoodnight, W. J. Whitlock, J. L. Smith, J. L. Garvin, Edwin Moore, Chas. Renfro, A. D. Boyd, I. W. Sterritt.

The appointment of committees being next in order, the President made the following appointments:

ARRANGEMENTS.—I. N. Greer, Judge W. C. York, Joe Adams.

EXHIBITIONS.—W. Cook, J. W. Wright, J. W. Scribner.

STATE OF BEE CULTURE.—Judge W. L. Dulaney, Bob Munford, J. T. Gray.

QUESTIONS FOR DISCUSSION AT THE NEXT MEETING.—H. W. Sanders, J. W. Holman, W. T. Sears, Dr. N. P. Allen.

Mr. W. Cook being called upon for a speech, said he thought a general discussion of matters before the Convention of more importance than a set speech, and upon being asked, "What is the best honey-produc-

ing plant," said he was a novice in the business, but like some of his friends, had caught the bee fever; thought white clover was the best plant known in this country for bees to feed on; said it grew wild abundantly in this section, and saw no reason why this should not be a great bee country; thought that the pear tree did not produce much honey; believed that the bees thought the cherry tree a good place to gather their sweets; wild plums were good; the poplar furnishes the most of our honey, and was sorry that the poplar trees were being destroyed so fast, no insect prayed upon its foliage; the North and Northwest had other trees that produced honey, but did not know whether they could be utilized in this country or not; all of our forest trees produce honey; blackberries, raspberries, both black and red, furnish honey to the bees; knew no plant that bees are fonder of than the raspberry; never noticed whether they liked the grape vines or not, but would judge they did; the strawberry did not furnish much honey, but thought white clover and the poplar the best plants that grow in this country for bees to get honey from.

Mr. B. Munford thought bees needed as much attention as anything raised on the farm; it was as necessary for them to be supplied with what they needed as for any of the other things raised; regarded white clover and poplar as the most bountiful nectar producers known in this section. If the weather was not propitious during the time the white clover and the poplar were in bloom, the bees would not get much honey. He gave an instance of his own observation. One day he set a pair of scales under a bee hive, and the bees during the day increased the weight of the honey 19½ pounds, all of the increase he thought was made from white clover and poplar.

Dr. Allen said alfalfa was not a good honey producer; buckwheat is one of the best honey-producing plants we have; the linn furnishes more honey than all the blooms in the country put together; had seen it nearly drip with honey; knew of one tree that had furnished 16 gallons of honey in one season; red clover was a very fine honey producer but our bees can not reach the nectar.

The Association adjourned for dinner. A bountiful repast was spread in the chapel by the good housewives of the bee-keepers, and the bee-keepers partook of it as busily as do their bees of the sweets of the flowers and plants. Every one after filling himself with the best the land affords was ready to see the practical transfer of the bees by the committee that had been appointed by the President. Mr. W. W. Wright, J. W. Scribner, Jas. Garvin, Nat. Holeman, a committee, followed by all who wanted to see them transfer, repaired to the residence of Judge York, where they removed a hive of bees from one hive to another without arousing the anger of the bees, and without a single insertion of the little sting of a bee into any of the disturbers.

At the appointed hour, the afternoon session assembled and proceeded to business. The selection of a place for the next meeting being in order, Horse Cave, Gainsville and Drake's Creek Church were put in nomination. By balloting, it was determined to hold the next meeting at Horse Cave, on the first Friday and Saturday in November next. Next in order was to receive the reports of the committees. The Committee on Exhibition made the following report:

There are on exhibition from T. G. Newman, Chicago, Ill., the following: Bingham smokers; yellow comb foundation; Van Dusen's bee feeders; King's Text-Books; glass honey jars; Emerson's binders; Muth's bee veils; Alley's smokers; Cook's Manuals; honey knives; registering slates, &c.

W. COOK,
J. W. SCRIBNER,
W. W. WRIGHT.

The committee on the state of bee culture made a report as follows:

Your committee on the state of bee culture, beg leave to report that the good honey crop of last year has created much more interest in the culture of bees than has been felt in a long while, and the bee journals and effects of bee conventions have taught the people how easy it is to have plenty of honey, as well as to grow it in such attractive shapes as to advertise this industry, not only in the markets, but among people who have known bees all their lives and have not known before their capacity.

W. L. DULANEY, *Ch'n*,
ROBERT MUNFORD.

The committee to whom was referred the matter of selecting subjects for debate at the next meeting, made the following report:

We, your committee, would respectfully report the following questions for debate at the next meeting:

Will it pay to raise bee pastures for bees alone?

How can we prevent the bees raising brood in top story?

How thick should we make our hives to winter bees in?

How many colonies of bees can one man attend to properly?

Shall we change our bees into new hives every spring to clean them out?

How shall we preserve our surplus combs during winter?

H. W. SANDERS,
W. T. SEARS,
J. M. HOLMAN,
A. D. BOYD,
JAMES L. GARVIN.

It being on the programme for Hon. W. L. Dulaney to make an address on "The Pleasure and Profit of Bee-Keeping," he entertained the audience for about 30 minutes in his happy and original style, making a speech that was as interesting to the children present as to those well versed in the art of bee-keeping. He said he had the finest pack of hounds in the State; he kept fox dogs as a sanitary measure; so far his bees had not been very profitable to him, as he had given all the honey he had taken from them to ladies to compensate them for the damages done their flower beds by his hounds.

The speech of Mr. Wm. (Fish) Cook, on "Bee-Keeping—the Past, Present and Future," was carefully prepared, and was received by the audience as a rich treat. He told all about bees, from the first one that was created down to the one he saw that morning extracting honey from a bloom of white clover. He thought there had been a wonderful improvement in bee-keeping and looked for a still greater improvement in the ruture.

On wintering bees, I. N. Greer, W. Cook, Bob Munford made appropriate remarks, each one telling their experience, all of which corresponded in the main.

Dr. Allen said he had better success marketing honey in small glass boxes; it sold more rapidly than in large quantities. Mr. W. T. Sears said he sold his honey in large

caps, in tin cans, and in any shape and quantity he could.

Dr. Whitlock, on the question "How far bee hives should be placed in the apiary," said it made no difference as to the distance. W. W. Wright said bees should be placed some distance apart. Dr. Allen said it was best to have them at least 6 or 8 feet apart. Mr. Munford said 12 or 15 feet apart would be the proper distance.

RAISING AND INTRODUCING QUEENS.

The President remarked that many methods had been tried, and that there was a difference of opinion as to the best mode of raising queens; said he had abandoned the small nuclei hive for queen-rearing, and used the Langstroth hive instead; said by putting in division boards he could raise three queens at the same time, in the Langstroth hive. Two division boards would divide the hive into three apartments, with as many places for the bees to enter; he had one entrance in front, one in back end, and one on the side of the hive. Each apartment should have a separate honey-board so the bees would not pass from one apartment to the other while manipulating them; said he formerly unqueened a hive, in order to get queen cells; the queen being removed, the instinct of self-preservation would force the bees to construct a number of queen-cells; the number depending upon the strength of the colony and richness of the bee pasturage. Said he would take a sheet of empty comb about two-thirds full and put it in the brood-nest of his choice colony of Italians. About ten days before he put them to rearing queen-cells; that he preferred a comb with plenty of larva and eggs in it, and the frame not being full of comb, they would construct their queen cells on the lower margin of the comb, and the cells were easily removed.

To get cells built he removed a strong colony to a new place and put an empty hive on the spot where the old hive stood; done this about 9 or 10 o'clock in the morning; he would then go to his choice hive and remove the comb that he had placed there with the adhering bees (being careful not to remove the queen), to the empty hive on the old stand, placing it so he could put empty comb on both sides of it; close up the hive and the bees that were out would make a strong swarm, and would in 8 or 10 days build and cap the cells. The nuclei should be set up a few days before the cells are ready to be removed, so the nuclei hive should be placed where it is to stand; then go to a strong hive and get a sheet of comb with brood, being careful not to have more brood than the bees can keep warm and cover; a small quantity of brood is best on the start. Put one or more combs, with adhering bees, in each apartment, leaving the queen in the old hive; get a large per cent. of young bees, as the old bees will return to the old stand. Young bees can be added to nuclei at any time by removing a comb from an old hive and shaking or brushing the bees off at the entrance. The young bees will remain and the old will return to the old stand.

On the tenth day he would remove the cells, by cutting them out with a knife, being careful to not cut or damage the cell; said he cut an inch or more from the cell; he then cut a piece of comb corresponding in size with the one the cell was on, out of the center of the brood comb in the nuclei, and introduced the cell in its stead, he then closed up the nuclei. But before putting in the cell, destroy all queen cells with the point of a knife that are on the comb; in a few days the queen would hatch, and as soon as she commenced laying eggs she was ready to be introduced to any colony of bees desired. Said she was then what is called an untested queen, a pure Italian, but we don't know what kind of a drone she met, whether it was an Italian or black drone. To test a queen you must keep them until the brood hatches, and that will take about 21 days from the time the egg is laid. Said the swarming season was the best time of year to raise queens. It required experience to be successful in raising queens. Said queens could be raised whenever the weather was warm and there was honey in the flowers and drones in the hive.

He introduced his queens by putting them in a wire cage and hanging the cage between the brood-combs. Of course the queen to be superseded has been removed and all queen cells destroyed. He would release the queen in 12 to 20 hours, by removing the stopper from the mouth of the cage, and tying a piece of newspaper saturated with honey on both sides, over the mouth of the cage, and hanging the cage in the hive; the bees would cut the paper off and release the queen; he preferred to release her about sunset, as the bees were more quiet then.

After adopting the following resolutions the Association adjourned to meet at Horse Cave on the first Friday and Saturday in November next.

Resolved, That we tender the thanks of the Association to the good people of Glasgow Junction and vicinity for their hospitality and kindness displayed on the occasion.

Resolved, That the Glasgow *Times*, Bowling Green *Pantagraph*, *Farmers Home Journal*, and the AMERICAN BEE JOURNAL pe requested to publish the proceedings of this meeting.

N. P. ALLEN, *Pres.*
H. W. SAUNDERS, *Sec'y.*

Our Letter Box.

Chenango Co., N. Y., May 22, 1878.

"Our 52 colonies of bees have destroyed their drone brood, and have driven out their drones, in consequence of honey dearth, caused by our late cold weather. Fruit trees bloomed about 25 days sooner than usual, and raspberries, locust, and some other flowers of less importance, promised to follow in quick succession; but they are so injured by frost that they will be but very little earlier than they usually are.—Bees were making preparations to swarm, and we should have had some issue had the weather been fine, about May 20. They will not swarm until June 25th, if they do at all. We expect white clover about the first of June. We shall work our bees for honey, and prevent swarming as much as possible." CHAS. G. DICKINSON.

New Canton, Ill., May 16, 1878.
"The JOURNAL grows better and better every month. No bee-man can afford to do without it." JOHN BARFOOT.

Marcellus, N. Y., May 14, 1878.
"The hills were covered with snow on the 12th inst.; the thermometer stood at 27° Fahrenheit." N. N. BETSINGER.

Platteville, Wis., April 13, 1878.
"Very cold; heavy frost this morning; thermometer 25 above zero. Bees have had a poor time of it on the fruit blossoms; too cold, and rain." E. FRANCE.

Carson City, Mich., April, 12, 1878.
"My 170 colonies wintered well; the season is 6 weeks ahead of anything for 7 years. Swarming will commence by May 1st, if this weather continues."
HIRAM ROOP.

Marengo, Ills., May 16, 1878.
"Season has been good for fruit blossoms which have now lasted three weeks, but are about done, and bees are killing drones."
C. C. MILLER.

West Chester, Pa., April 30, 1878.
"The long storm has prevented the bees from gathering much honey from the apple blossoms, and these are now about over. I had several ready to swarm when the storm commenced, but they have changed their arrangements and broken up."
E. PENN WORRALL.

Lawson, Ray Co. Mo., April 25, 1878.
"Bees are doing well here this spring.—One of my neighbors had a large swarm to come out on April 17; not thinking it a natural swarm, returned it to the same hive, and on the next day they came out and went to the woods. I then made an examination, and found the hive full of brood, in all stages, and several queen cells sealed over. I have 150 colonies very strong." J. L. SMITH.

Hillsboro, Ill., May 14, 1878.
"On the 14th of March last, pursuant to previous notice, those interested in the culture of bees, in this and adjoining counties, met in this city and organized a Bee-keepers' Association by adopting a constitution and by-laws, and the following officers for the ensuing year, viz: I. B. Shimer, President; E. Armstrong, Vice President; Wm. K. Jackson, ; Secretary and Wooten Harris, Treasurer. Twenty-four persons gave their names as members."
W. K. JACKSON, *Sec'y.*

Strawtown, Ind., Jan. 21, 1878.
"In the JOURNAL for February, 1877, I gave a description of my cellar for wintering bees. In the warm weather of that month I gave the bees a flight. They remained out a week or more, and flew every day. The 2 nuclei started brood, as did all the colonies. When the weather turned cold again, about the first of March, all were put back in the cellar, where they remained till the last day of March. When they were taken out again, both nuclei and 2 colonies were dead. They had suffered more during March than all the time before. While out in February, they started brood, and the food taken to feed them had decayed till all were more or less depleted in numbers. We transferred the blacks that we bought about Christmas, while they were out in February, and killed their queens and united them with weak colonies of Italians, so as to have them Italianized early. The cellar was a success in comparison with our former efforts in wintering.—Out of about 50 colonies, only 2 were lost; most of them came out in very fine condition. I sold 10 of them to a neighbor for $120 and bought 20 of Mrs. Grimm for the same amount, and never bought as strong colonies before, and never dealt with any-one more prompt or accommodating. I commenced the season with about 55 colonies, and sold some 20 during the summer, making about $250 worth of sales altogether. We also sold about 500 lbs. of honey and have wintered 100 colonies in the cellar. We also have our nuclei, about 40 in number. All are wintering very nicely, so far. We aim to take our nuclei through, so as to commence queen rearing in the spring, just as it stopped in the fall. Our comb honey was readily sold at 20c., at our county seat, beside honey said to be from California. They prefered ours after trying both." JOHN ROOKER.

Wrightstown, Wis., May 4, 1878.
"After being burnt out last summer, I again rebuilt my dwelling house, and made a large cellar with double walls of brick and stone; thinking I had a sure thing for wintering my bees. But it was late before I got it done, and the fall being rainy, I could not get it sufficiently dry; but I run the risk of the damp, and put 43 colonies into it, all in splendid condition, and lost all but 2. The queens seemed to be the first to die. My cellar was well ventilated, and the temperature even. I covered them with quilts and filled the caps with fine, dry straw. It was either the scent of the lime and cement, or the coloring in the cloth with which the quilts were made of. I have purchased some more hybrids of the widow Grimm, and intend to fill them up again this summer." CHAS. R. CLOUGH.

Woodman, Wis., April 22, 1878.
DEAR EDITOR:—"Your pamphlet on 'Honey as Food and Medicine' is at hand. It is a step in the right direction. What we most want now is a market or demand for our product, for no one will care to keep bees long after keeping them ceases to pay, so that is what we are all after. I raised, last season, 6000 lbs. of honey, and have sold 4000 lbs. of it in my home market. I find the great drawback with extracted honey is to convince the people it is pure, when you sell it to them for less than you do comb. It looks suspicious. I have often been asked how it was that I could do all the extra work of extracting, &c., and then sell it so much less. I have one customer that has bought honey of me for 3 years, yet every little while he wants to know what I put in my honey to make it as good as comb honey, and yet sell it so

cheap. When I explain the process, and saving in comb, most men will understand and accept the explanation. I have been thinking of getting some circulars printed with some appropriate heading like this, perhaps, 'To the lovers of pure honey;' and then go on and explain the process of extracting, and the advantages, and leave them in the stores for distribution, endeavoring to post the public as to why we could furnish a pure article of extracted cheaper than comb honey." H. F. WALTON.

Baraboo, Wis., May 9, 1878.

"Bees have done well until now; cold today, very. My Italians threw off a large swarm the 5th, and that without stimulation. Bees are strong. Drones have been flying for two weeks." WALLACE PORTER.

Dundee, Ill., May 24, 1878.

"We have been literally over run with orders, and have worked almost day and night. Our whole page advertisement in the AMERICAN BEE JOURNAL is the *cause* of it. It is the best investment we *ever* made. Look out for a "spread" next year." J. OATMAN.

Scott Co., Ill., May 25, 1878.

"Boxed 4 colonies April 15, 3 May 20; none worked in the boxes till the 21st. inst., and now combs are built to the bottom in many of them. The section boxes, put on in trays or crates, seem most attractive to the bees and are ahead. Perhaps they are more accessible. White clover is abundant." WM. CAM.

Waverly, Mo., May 10, 1878.

EDITOR AMERICAN BEE JOURNAL:—"It seems that you and 'Novice' don't altogether agree. I am more than pleased with the stand you have so promptly taken.—His erroneous ideas and conclusions have long been a source of annoyance to many practical and well-informed bee-keepers." ALSIKE.

Peoria, Wyoming Co., N.Y., May 8, 1878.

"Your pamphlet on Honey as Food and Medicine, was duly received. Thanks. It seems to be just the thing to open the eyes of both producer and consumer to the value of honey as an article of food, not as a luxury only, but a *staple*, supplied by nature in her most beautiful form—the nectar of flowers. It can but be received with favor by all lovers of this delicious sweet." C. R. ISHAM.

Stevensville, Mich., May 8, 1878.

"I wish to tell my experience in stopping bees from going to the woods. Twenty-five years ago, more or less, my father kept bees in Western New York, and having lost several swarms by their "lighting out," an old man told us to shoot among them. The next swarm was hived, but didn't act like staying, so I loaded my little shot gun and didn't have long to wait before out they came, and I kept ahead of them and fired away. Four shots in perhaps as many minutes caused them to alight, 6 or 8 rods from their starting place, and they were hived and did well. Another swarm undertook to go, and got about 10 rods on their way before we got a shot into them. Ten rods farther another shot was fired, and they soon alighted on a tree and were hived and taken back. Oil up your old shot-guns, friends, load with powder and 'wad,' only, blaze away and report. A neighbor had a swarm come off the 6th inst." A. C. OWEN.

Hamilton, Ills., May 6, 1878.

"Please inform N. C. Mitchell, through your paper, that his patent on division boards is useless and void. We used division boards with cloth or rubber edges in 1869 and ever since, and can prove it. His patent is too late for any purpose." CH. DADANT & SON.

[True; but are not the rubber strips on these division boards worse than useless, friends Dadant? Certainly, we have no use for them! As before stated, let us repeat—simple division boards are neither patented nor patentable.—ED.]

Northville, Mich., May 11, 1878.

"The smoker came duly to hand, and works to a charm. Thanks for promptness. We have had bad weather during the last 3 weeks for the bees. It has rained nearly every day, and ended with a good frost last night. One of my neighbors lost 21 colonies of bees out of 50 since the 1st of April. He says that they dwindled away to a handful before the queens died, and some of them had brood in the cells when the queen died. but took no steps to raise another. Some of them would swarm out of the hive and go off. The combs are clean and good; some hives having 30 lbs. of honey in them after the bees were all dead. He wintered on the summer stands, without any protection." RANSOM ALLEN.

Los Angeles, Cal., April 30, 1878.

"I have received your pamphlet on 'Honey,' and find it very interesting. My bees are mostly Italians, some hybrids, none blacks. I have, at present, about 90 colonies. They are doing first-rate. The copious rains we have had this season have produced a great abundance of wild flowers. The white sage is coming out finely, and will commence blooming in a week or two. We expect a good honey harvest, though, of course, not as large an aggregate as formerly, on account of the great loss of bees last year. The newspapers say, that out of 25,000 colonies of bees there were only between 5,000 and 6,000 left in the county at the beginning of this season." WM. MUTH RASMUSSEN.

Ft. Worth, Texas, May 13, 1878.

"I am a reader of your valuable JOURNAL, and have learned to love it. I found one of my colonies without a queen this spring—killed by moving in wagon about 70 miles. We put in brood from a strong colony and raised a queen; she is doing but little good in an official capacity. I have sent for an Italian and hope to succeed better with that. I use the Langstroth hive, and the only trouble I find with it is, some-

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Contents of this Number.

EDITOR'S TABLE:
Editorial Items....209 to 217
Standard of Excellence.... 212
Adulteration of Sweets.... 211
The Chicago Atomizer.... 212
Surplus Boxes 40 Years Ago.... 210
Excelsior Bee Smoker.... 213
Bees in Southern Wisconsin.... 213
Sending Honey to Commission Men.... 213
Smoker, Tin Corners, &c.... 214
California Honey.... 215
Scovell's and Novice's Queen Cages.... 215
Coating for Honey Barrels.... 215
Land Flowing with Milk and Honey.... 216
Bee-Keeping in Colorado.... 217
A Frog Eating Bees.... 217
Rats and Mice.... 217

FOREIGN NOTES:
The Paris Exposition.... 218
Cure for Rheumatism.... 218
The Wax Tree.... 218

NOTES AND QUERIES:
Sundry Questions and Answers....218 to 220

CONVENTIONS:
North-Western Illinois Convention.... 221
Uniting Colonies.... 221
Why Bees Desert their Hives in Spring.... 221
Mouldy Combs.... 221
Los Angeles Convention.... 221
Ventilation.... 222
Lancaster County, Pa., Convention.... 224
Chips from Sweet Home.... 225
Central Kentucky Convention.... 226
Origin of Co-Operative Effort.... 226
Bee-Keeping a Source of Wealth.... 229
Honey and Marketing It.... 231

CORRESPONDENCE:
The Langstroth Hive.... 232
Preparing Barrels for Shipping Honey.... 233
Chips from Sweet Home.... 233
Kretchmer's Metal Frame-Bearings.... 234
Comb Foundation, Marketing, &c.... 235
Things in General.... 236
Sad History Repeated.... 236
Moore's Section Boxes.... 236
Wiring Comb Foundation.... 237
Cyprian Bees.... 237
Floating Apiaries.... 238
Bee Notes from Georgia.... 238
Bee Culture in Northern Michigan.... 239
Honey Rack and Separators.... 239
Items from California.... 240
Spring Feeding of Bees.... 241
Foul Brood.... 241

OUR LETTER BOX:
Sundry Letters....242 to 245

BUSINESS MATTERS:
To Correspondents.... 245
Prof. Cook's New Work.... 246
Bingham's Smoker Corner.... 247
New Quinby Smoker Column.... 248

☞ The Texas Horticultural and Pomological Association hold their fourth annual exhibition on July 17 to 19, at Houston, Texas.

Editor's Table.

☞ Lemonade made with honey, and used freely, is an efficient remedy for dyspepsia.

☞ The unfavorable weather during the early part of June, caused the destruction of many young queens, who were ready for fertilization about that time.

☞ Comb Foundation is being used very generally this season, if we may judge by the quantities called for at this office, amounting to between three and four thousand pounds, already.

☞ A snow storm in Perthshire, Scotland, on June 11th, seems to indicate that the cool weather which prevailed in this locality was not exceptional. If a snow storm in June is disgusting to the human family, it must be doubly so to the tiny bees, who then reasonably expect to revel in the bloom of thousands of fruit trees and millions of flowers!!

☞ We have received a nice lithographic view of the residence and bee-yard of the Hon. H. S. Van Anglen, near Waverly, LaFayette Co., Mo. He calls it "Orchard Place," and we should think it rightly named, from the many trees there exhibited. It is a perfect minature "paradise," where the bees as well as the honorable family ought to be, and no doubt are, as happy as it is averred our primogenitors were in the original "Garden of Eden." It also adorns our museum.

Surplus Boxes 40 Years ago.

So much has been written about the invention and use of surplus boxes for honey, as a very recent contrivance, that a relic of 40 years ago, sent us by friend W. W. Lynch, of Maysville, Ky., will be interesting to our readers. It is a copy of Fishers' *Farmers' Almanac* for 1839, by John Armstrong, A. M., professor of mathematics in Franklin College, O. It is published by Robert Fisher, in Wheeling, Va, On page 32, we find the following on the

MANAGEMENT OF BEES.

The Kennebec, Maine, agricultural Society, at their meeting last autumn, awarded their premium on bees to John Gilmore, who furnished the society with the following statement:—"Having entered my name for premium on honey and a hive for bees, I will inform you how I have managed them for some years past. I keep them in boxes—my boxes are 13 inches square on the outside, and from 6 to 7 inches high, with thin slats across the top about an inch wide, with just room to let the bees pass between them.—For a young swarm I fasten 2 boxes together, with a board on the top, put in the swarm, and when I set them on the bench, put under as many more as I think they will fill—a large early swarm will fill 4 or more. I had some this season that filled 3 in about a fortnight, and then swarmed, and the young swarms have filled 4 boxes.—After my old hives have swarmed once, I usually put under one or more boxes. I prefer this course to letting them swarm again, for second swarms are generally worthless. When the weather becomes cool, if the hive is well filled with honey, the bees will all leave the upper box; it can then be taken on without disturbing the bees in the hive. I usually take from my old hives and early swarms one box, containing from 50 to 54 lbs., and leave enough for the bees to live on during the winter, or I can take a part and return the box if I think the remainder is sufficient for them. If my bees grow lazy after the swarming season is over, and hang out on the hive, which is in consequence of the hive being full, I add more boxes. I had a few swarms which I have taken up otherwise. I have not destroyed any bees. I have taken up on my own farm this season 289 lbs. of good honey in the comb; and I now own, including including those I have taken up, 26 hives.

Where is Gillespie, with his new patent on two-story hives? He ought to have collected a "Royalty" of John Gilmore in 1838, (40 years ago), for using a two-story hive. He put a 6 or 7 inch story over his breeding apartment, which was 13 inches square, and obtained his surplus comb-honey in these "boxes," which had slats or bars across the top, an inch wide, "with just space enough to let the bees pass between them!"—there is a bar-hive, with 1⅜ inches between the bars or slats. These he also "tiered up," too, as some now do. He was a *progressive* bee-keeper, with advanced ideas; and obtained from 50 to 54 lbs. of comb-honey from a hive, good enough to exhibit at an agricultural fair in Maine, in the year 1839! Good enough!

☞ A subscriber in Alabama wishes to know how to be able to tell when honey is adulterated. Almost all extracted that will not granulate is adulterated. The latter is not as sweet—tastes more like starch, and lacks the pungent aroma of the flowers for which the genuine is noted.

☞ We have received the "Dunham Rack" or Case to hold sectional boxes. It is an ingenious contrivance for expanding the limits of a story for hive having cases with close-fitting top bars, thus admitting ease in manipulations. It can be used under a 7 inch cap; or by nailing strips on, can be tiered up as high as wanted, or used with a 3 inch cap. It can be closed with hooks, but Mrs. Dunham says she prefers wires, as they are the cheapest, and can also be used as handles, and in lifting the case they draw all firmly together.

How to Winter.—Those who wish to post up on the subject of wintering, will do well to read Prof. Cook's essay as read before the National Convention of 1876.—Price 15 cents.

Adulteration of Sweets.

Resolutions Passed at Burlington by the Western Illinois and Eastern Iowa Bee-Keepers' Society, May 8, 1878:

Resolved, That under the name of committee against the adulteration of sweets, a committee of three members be appointed, viz., a President, a Secretary, and a Treasurer.

Resolved, That this committee be instructed to prepare a petition to Congress, and to send a copy of this petition to each of the members of this Convention, with a request to have it signed by the bee-keepers and people at large and returned.

Resolved, That the editors of the bee journals of the United States be asked to insert this petition in their columns, with request to each of their subscribers to take the trouble to have it copied, posted in their postoffice for signature, and sent to the Secretary of said Committee on Adulteration.

Resolved, That said committee be instructed to have an understanding with the Secretaries of all the other bee societies, or bee conventions, through the United States, in order to obtain of such Societies a move in the same direction.

Resolved, That the first expenses incurred by said committee be paid out of the treasury of our Society, and that all other societies be asked to help in the same way.

Mr. Dadant stated that this motion was put before our Society because of the enormous amount of sweets, and especially syrups, sold to the public that were nothing but glucose. He had gone to the best drug store in Keokuk to ask for a sample of glucose. As they did not have any, they told him that they would inquire where it could be found. At his next trip to town they asked him if he had found any glucose any where. He had not. They then told him to go to a grocery anywhereand ask either for New Orleans molasses or golden syrup, or even for maple syrup, and that he would get glucose.

They informed him that he could easily test it by putting a little of it in tea and that it would turn the tea black. He bought 3 samples in different groceries. All turned the tea black. This is on account of the amount of sulphate of iron contained in glucose.

It was thus evident that the people were being poisoned, or at least more or less injured, by wholesale, through this adulteration of inoffensive sweets. This adulteration was also practiced on honey

He remarked that it was just as much the interests of the government to stop this fraud as to stop the counterfeiting of greenbacks; for the one injured the health of the people as much as the other injured their wealth.

It is of course to the interest of bee-keepers to have such laws established, as the large sale of this spurious article in syrups and honey injured the sale of the better and healthier sweets throughout the country.

He stated that this would be only following the example of England, France and other nations, who very justly decided that the liberty of a man ends where it is prejudicial to the welfare of the community. If such laws were passed, making it a criminal offense to offer any sweets under any but their real name, and a few of the adulterators were sued and punished, this would at once stop the sale of any but the real articles, and would permit these wholesome articles to be sold at a sufficiently remunerative price, and it would also be very beneficial to the public health.

C. O. D.—If all were inclined to do just right, and were honest, it would be safe to deal or "dicker" in any convenient way. To send by express, C. O. D., seems to be a very simple and honest way to order goods—but, alas, for human nature, some thoughtlessly order heavy goods in that way that should go by freight, and when they find the amount charged for expressage is so large, they simply refuse to take them Then we have to pay the charges both ways in order to get the goods back and save ourselves from further loss. All can see at once the injustice of the thing—so in future we shall be obliged to refuse to send goods by express C. O. D. Let no one feel hard with us on that account. We would like to do otherwise—but *dare* not.

PREMIUM QUEEN.—To the person forwarding to the Editor of AMERICAN BEE JOURNAL the largest number of new subscribers up to the 1st day of October next, I will present one of my choice Gold-Mine Queens. The Editor to be the judge.

Rome, Ga. A. F. MOON.

Honey Markets.

NEW YORK.

There is no change in the condition of the market during the past month, and prices are still quotable as follows:

Buckwheat Honey—comb	8 to 12c
Strained or extracted	8 to 10c
Clover—in comb	15 to 25c
" extra	8 to 12c

H. K. & F. B. THURBER & CO.

CHICAGO.

HONEY.—The current quotations for good to choice comb, are ranging at 11 to 12c. ₱ lb; common and dark colored lots at 8 to 10c. and choice extracted honey at 8 to 10c.

BEESWAX.—In fair request at 24 to 26c. per lb. for prime choice yellow. No new honey offering yet.

CINCINNATI.

COMB HONEY—In small boxes, 15@20c. Extracted, 1 lb. jars, in shipping order, per doz., $2.50; per gross, $28.00. 2 lb. jars, per doz., $4.50; per gross, $50.00.

C. F. MUTH.

CALIFORNIA.

HONEY.—Our honey crop will be large, and being located far away from a market, we must find one for our large surplus production. We look to England and France for a market, and when our wheat ships move for European ports, so will our honey. Prices will be established. The stock of extracted honey is now pretty liberal. There are small orders in the market, and as prices are now more settled, they probably will be filled this week. Comb honey is less plentiful than extracted, but prices are settling. We quote: Comb honey, white, ₱ lb., 11@13c.; dark to medium, 8@10c. Extracted, dark, ₱ lb., 6@7c.; choice, 7½@8c.

BEESWAX.—Supply and demand correspond, both light; at 25@27½c.

STEARNS & SMITH, 423 Front St., San Francisco, Cal.

Standard of Excellence.

In response to our plea for deciding upon a standard of excellence for Italian bees, we present the following:

Elizabethtown, Indiana.

FRIEND NEWMAN:—Your idea of wanting bee-keepers to agree upon a standard of excellence of the Italian bees suits me. I hope you will keep this thing before the bee-keepers, as I think we should be able to settle this matter during next winter. The trouble is, some prefer dark and some light-colored bees. I have the light-colored bees. I think they are just as good for work as the dark ones. My customers say that my bees are prolific and *very* industrious. I will, at some future time, give you my opinion as to what *pure Italian* bees are; or, at least, what we should all breed for, as to color, markings, &c. I have been offered $1 each, for queens that I pronounced hybrids, but I prefer to kill them. Think there are too many of this kind. JOS. M. BROOKS.

True, friend Brooks, there are too many hybrids sold for Italians now.—But why didn't you give your opinion of what they should be, instead of promising it sometime—that is "too thin." "Now is the time and this is the place." Speak.

Polo, Mich., June 16, 1878.

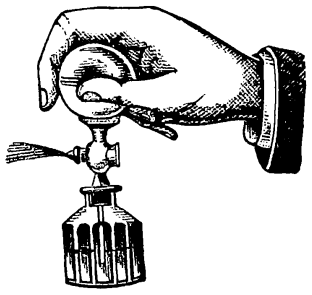
MR. EDITOR.—As you make a call for a standard of excellence in Italian bees, I will tell you what I think it ought to be: The queen should have a *bright yellow* abdomen with a black point. The workers should have three *bright yellow* bands behind the waist, with a very narrow dark edge. The drones should have 3 very broad, *bright yellow* bands on the back, below the thorax, the sides of abdomen a *bright yellow*, and should be all uniform. If I was on a committee to establish a standard of excellence, I should define them more minutely in some other points. S. K. MARSH.

Well done, friend Marsh, you started well—but *why* say *if* you were on a committee you would define them more minutely in some particulars. You are already on a committee; so define thoroughly—exhaust the subject.—Next.

A man who has sold lots of bees to his neighbors for Italians, called on us a few days ago, and wanted to see ours. After examining our *pure* Italian bees, he said he never saw such before. His were not marked at all like them.—Query:—What kind of bees was he selling for pure Italians? Will any one say that there is no need of agreeing upon a STANDARD by which all may be tried, and thus save imposition?—If there be such a one, let him now speak out.

The Chicago Atomizer.

At the request of several who want a perfect means of spraying combs, bees, &c., for the cure of foul brood, as well as for changing the scent of bees when introducing queens, dividing, making nuclei, &c., we have procured a nice



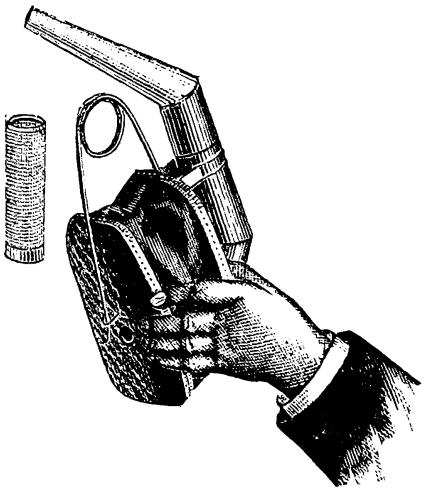
little thing, called the CHICAGO ATOMIZER, which we can sell at the low price of $1. If sent by mail it will cost 30 cents extra for postage. The above engraving shows its shape and the manner of using it. See page 241 for a description of its use in the cure of foul brood, though we would suggest a trial of the following formula, and its repetition on the sixth day, to prevent a return of the epidemic:

Salicylic Acid	128 grains.
Soda Borax	128 "
Bromo Chloralum	64 "
Pure Rain-Water	16 ounces.

GLASS, WITH CARE.—Friend Chas. Simon, of Swan, Ind., has sent us a surplus honey box, made entirely of glass—6 pieces in all, *i. e.*, 2 pieces of each of the following sizes: 4x4¾; 1¾x4; and 2x4¾. It has four very small pieces of wood, simply to strengthen the joints. It looks well—would show off the honey to perfection, but we should think the great draw back would be the extreme care needed in shipping. It certainly makes the neatest appearance of any box we ever saw.

Excelsior Bee Smoker.

In last month's JOURNAL, on page 176, we noticed a smoker made by Levi Sutliff, Charles City, Iowa. We now give the following illustration showing its shape and general appearance. As friend Sutliff thinks we did not give a correct idea of it in the JOURNAL for June, this cut will certainly correct any



false impression made. In saying it was 3 or 4 times as large as ordinary smokers, we meant, of course, in the operations of the bellows. Its bellows is 4⅝x8 inches, and has a three-inch motion. The Bingham bellows is 5x6 inches, and has a motion of just one-half, or 1½ inches. The tube of the Bingham is less than 12 inches in length, while this is 20 inches in length. These points gave us the *enlarged* idea of this new-comer.

The tube is 1¾ inches in diameter. The fire-part is 5 inches long. The little tube at the left of the smoker is the cartridge, which may be filled with rags or any other material that will burn, and then put it into the fire-tube, and it is ready for operation. It is advertised in this JOURNAL, and may be had either of Mr. Sutliff or at this office.

☞ The teasel will be in bloom when this JOURNAL gets into the hands of its subscribers, and it will last about four weeks. An acre will support about 10 colonies.

☞ Among our many callers during the past month were Mr. and Mrs. F. F. Collins, of Dallas, Texas, who are spending a few days in the city. They report prospects for honey crop as very favorable in that State, and brought a sample of their extracted honey. We had a very pleasant visit with them.

BEES IN SOUTHERN WISCONSIN.—A correspondent of the Milwaukee *Journal of Commerce*, writing from Milton, Wis., under date of May 31, says:

The men who handle the little insects that "improve each shining hour, and gather honey all the day, from every opening flower," together with the rest of creation, have met with misfortune this season, owing to the cold, damp weather during April and May. There are two men in this town who have quite extensive apiaries, and although their bees wintered well, they have lost a large number since taking them out of winter quarters. One of them, who put one hundred colonies in the cellar last fall has now less than fifty.

Yes; but now the fine weather of the past 10 days has put the bees to work with a will. Our correspondents, nearly all through this JOURNAL, have been telling a sorry tale. But now, in all probability, their faces are wearing a smile of joy—the delightful weather vieing with the merry hum of the bees to make their cup of joy almost to run over. True it is of dame Nature, that

"Behind a frowning Providence
She hides a smiling face."

☞ Many have heretofore sent honey to commission men in this city to sell, and often never receive any returns for it. We know of several such cases now. They sell it, pocket the money, and you can't collect anything of them. There may be good men in that line of business, perhaps many—but the AMERICAN BEE JOURNAL cannot recommend any of them. Should any one desire us to sell their honey for them, we will cheerfully do so, or we will exchange supplies or anything we have for sale, for good honey in prize boxes. We want no other, and we will pay the highest market prices for such honey.

Smoker, Tin Corners, &c.

"I send you, by mail, a smoker and specimen of tin corners, and methods of fastening foundation and frames, which is very easy and quickly done, even by a novice. Care must be taken not to drive the nails so tight as to cut the foundation.

The smoker is made without any solder to melt, and the lower stopper cannot drop out, with fire and all. It has the advantages over the bellows smoker, as both hands can be used while smoking. They can be mailed at 35 cents.

We welcome your valuable paper, which has visited us for 10 years, every month.

The prospects for honey are extra good. Hundreds of boxes are now almost full." F. H. CYRANUS.

The smoker is intended to be held in the mouth. The tube is 2x5 inches, with a cone-shaped end, 2¼ inches, making its total length 7¼ inches. It has perforated tin partition to prevent the fire from issuing from the tube.—For a mouth smoker, it is the best we have ever seen, but we cannot imagine that any one would *prefer* a mouth smoker to one to operate with the hand. We have no such preference—others may, and for such, friend Cyranus has "just the thing."

The tin corners overlap the frame and are nailed to it. They are made of pieces of tin 2x1½ inches long by 1½ wide, which are bent to fit the top bar of the frame running down ⅜ of an inch on either side. These edges projecting ¾ of an inch over each end of the frame, form the rests to hold it in position, making it very strong, and not allowing them to be fastened down by the bees.

Friend Cyranus' method of fastening foundation into the frames is to rabbet the top-bar out ¼ of an inch from one side to the centre, place the foundation against the piece left, and press a strip of wood, ¼x⅜ of an inch, (being just the size of that rabbeted out,) close to the foundation, nailing through both with small brads. Of course, it cannot get away.

Nearly all the trouble with comb foundation may be accounted for either by its *not* being fastened firmly to the top-bars, or from its not being put into the frame with the strong way of the foundation in a perpendicular position. To ascertain this—hold a piece of foundation up, and look over it; it will be easy to discover small ridges running one way across it. In placing it into the frames, these should always run from top to bottom—never the other way.

In passing through the rollers, while making it, they press together so closely as to make very thin parts between every row of cells. It is impossible not to see this when holding a piece horizontally between the eye and light from a window. Every machine now used makes it thus—but we have a promise of a new machine before next season that will avoid this weakness. Whether it will come up to the promise or not, time will tell—and the JOURNAL will inform its readers. We advise those intending to purchase machines to await the developments of the next few months. Inventive genius is at work, and something beneficial may be the result.

☞ We have received a letter, consisting of questions to be answered, that would, if framed and glazed, be interesting to beholders. It is written on one side of a half sheet of paper, but contains 91 words so inaccurately spelled as to be almost unintelligible.

☞ That Prize we drew at the Burlington Convention came duly to hand a few days ago. It was offered by Hardin Haines, of Fulton Co., Ill. It was to be a Cyprian Queen. She came in good order and was at once introduced into one of the colonies of the BEE JOURNAL apiary. She is a fine looking queen and is laying profusely. We shall report her progeny in our next month's JOURNAL.

☞ The third annual Exhibition of the Iowa Industrial Exposition will open at Des Moines on Sept. 4,—keeping open for one month.

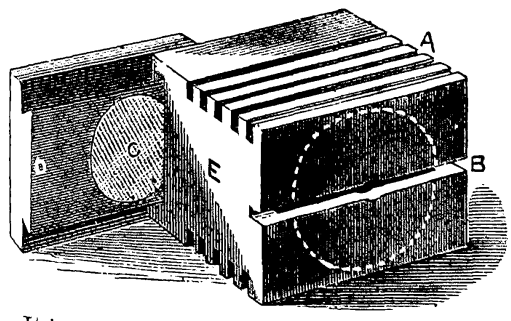
California Honey.

N. Levering writes to the Los Angeles *Star* that parties who are reporting enormous yields of honey there, this season, are doing so for the purpose of running down the price of honey. He adds:

"The honey crop this season in Southern California will doubtless be a little over the average. The amount of honey that will be thrown upon the market will not exceed that of two years ago, as the great mortality among the bees last season has greatly diminished their numbers. 'The harvest is great and the laborers are few.' We would advise bee-keepers to hold for more remunerative prices, where circumstances will permit. The shipments that will be made to Europe this season, and the new uses that are being made of honey must certainly increase the demand. It is no longer a doubt that a good quality of sugar can be made from honey, and it will not be long until the demand in this direction will add much to the pecuniary interest of the apiary. Apiarists have no reason to be discouraged, but keep up a cheerful hum like their little pets, and labor for a higher and broader development of this pleasing and interesting science, when a dawning future will amply reward their toils."

Scovell's Queen Cage.

In our last issue we mentioned friend Scovell's all-wood queen shipping cage. We now present an engraving, and will more fully describe it.

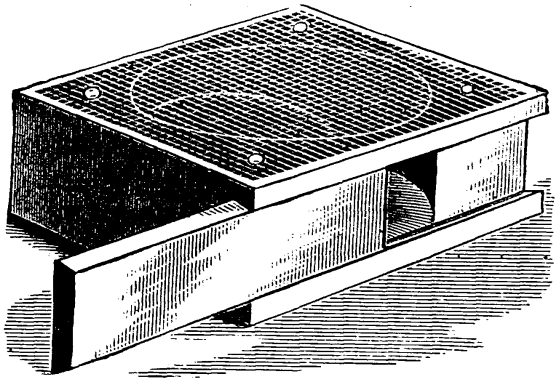


It is 1⅝x1⅝ inches, outside, and stands ⅝ inches high. *D*, represents the sliding cover; *C*, the sugar provision; *A*, exhibits saw cuts, similar ones being on the opposite side, serving for observation as well as ventilation; *B*, shows a saw cut across the bottom, but we notice that Mr. Scovell has omitted it in those subsequently sent to this office; the dotted lines on the bottom indicates the relative size of the augur hole inside, which comes to within ¼ of an inch of the bottom, and forms the cage.

It is exceedingly neat and strong, and makes a desirable Queen Shipping Cage. They can be obtained at this office in any quantities.

NOVICE'S QUEEN CAGE.

As several have requested us to give a cut of this queen cage, we have pleas-



ure in giving it, in this connection. It is also a very neat and convenient cage. It stands one inch high and is about 2 inches square. It is provisioned with candy before the wire-cloth top is fastened on. This we also keep for sale. See price list on third page of this JOURNAL.

COATING FOR HONEY BARRELS:—M. E. McMaster has sent us a sample of this compound for coating honey barrels, &c. He says he has used it in putting up about 5,000 lbs. of honey last season, with the best results, and considers it far superior to beeswax, and in every way equal to paraffine for the purpose mentioned; while it costs 9 cts. per lb. less than either of the above. It being of an elastic nature, it will not crack or peel off, and it imparts no taste or smell to the honey.—He has not been able to discover any objectionable feature in it, and thinks it as wholesome as beeswax or paraffine. See his advertisement in the JOURNAL.

☞ Judge Andrews, of McKinney, Texas, sent us word about the middle of the month, to look out for a "red-hot epistle" from him on the "purity of the queens," &c., as noted on page 151 of the JOURNAL for May; but so far it has not put in an appearance. Texas is just the place for a red-hot shot to emanate from, but we are far enough North to allow of a little "cooling" before it reaches us. "So mote it be."

☞ The Indiana State Fair takes place at Indianapolis, Sept. 30, 1878.—We have received a copy of the Catalogue, and notice in class 33, a premium of $5 for "the best display of honey;" $3 for "the best 5 pounds of honey in comb;" and $2 for "the best sample of cake, home made." Now let our friends in Indiana make sure of the latter premium for "Honey Cake." Take enough to feed the judges with it, and it will "take 'em," sure. For the comb-honey premium, some white clover honey in prize boxes, nicely glassed, will captivate the judges, if they depend upon "their senses" rather than "rewarding favorites."

☞ A correspondent, after weighing many different sized boxes, has figured out their relative contents, as follows: "A box when filled with newly made comb-honey, well sealed over, will contain 3 lbs. of honey to every 100 cubic inches of space contained in the box.—Thus a two-inch box, 5¼ inches wide, and 6¼ deep—the prize box—outside measure—will contain 66 cubic inches of space, and will consequently hold 2 lbs., box included. This rule holds good with any size of boxes—with the exception that the larger sizes of boxes will contain a trifle in excess of this estimate."

☞ Henry Alley, of Wenham, Mass., has just sent us some very fine Italian queens. They came by mail (letter postage), and were received in excellent order. They are of bright yellow, and appear to be in every way first-class.

"A LAND FLOWING WITH MILK AND HONEY."—The *Intelligencer*, of Belleville, Ontario, goes into ecstacies over the success of our friend, Mr. W. C. Wells, of Thurlow, Ontario. By quoting the text at the head of this article, he must really think that Canada is a modern paradise—

> "A land of promise this:
> Long looked for, by the good."

Well; we don't object, especially when the *Intelligencer* can report anything so good as the following:

"On Friday last he extracted the honey from a hive, and then put it on a platform scale. The hive gained in weight, on Saturday, 25½ lbs.; on Sunday, 30 lbs.; on Monday, 12½ lbs.; and on Tuesday, 5½ lbs. In all, in 4 days. 72½ lb. of honey extracted from one hive. This is actual gain by weight.—Mr. Wells has other colonies which did as well as this one, but this gain was by actual weight. The large quantity of cheese we ship is well known. We are entitled to say this is a 'land flowing with milk and honey.'"

☞ In a private letter, received just as we are going to press, Prof Cook remarks: "I wish you could see my class of 30, working with the bees.—They do it like veterans." Of course we would like to visit the College, and hope to, at some future day, but we are so busy now as to have but little time to devote to nourishment, recreation or sleep. For several months, passers-by have marked the office of the JOURNAL, as they are returning from places of amusement "along towards the midnight hour," by the light on our desk burning so brightly.

We did not intend to say this—but that one class of "three" (not 30) also "work like veterans" at the JOURNAL office apiary. They, like all other students, are enthusiastic on bees; their devotion never tires, never ceases. We invite the Professor to come and see our class. Being in a city, we always have quite a crowd to witness the manipulations with our bees. It is a new thing, here.

Bee-Keeping in Colorado.

Many inquiries have come to hand about bee-keeping in Colorado, and in order to answer them we quote the following from the Pueblo *Chieftain* concerning bee-raising in Colorado:

Will bees thrive in Colorado? is a question that has been asked by a great many persons who were desirous of adding this cheap and wholesome luxury to their places. Nearly everybody will say that bees cannot live here—there are no flowers to speak of, no clover or anything else that produces honey, they say. Now these comments are wrong and not based on facts. There are several very successful apiaries in Fremont county, but as we are only acquainted with two persons owning apiaries, Messrs. Frazier and Tongs, we cannot say how profitable the others, probably a dozen in nnmber, have heretofore been, but judging from the successful workings of these, the net yearly profits must be considerable.

It seems the editor visited both apiaries and remarks as follows:

We found upon examining the hives that the lower apartments were full, and the upper ones two-thirds full, of as nice clear white honey as was ever gathered from white clover. We were somewhat astonished to see such an abundance of honey laid in at that time in the year, when the surrounding country for miles was perfectly void of vegetation, with the exception of buffalo grass and cactus, and as a matter of course, our next question was—where did the honey come from? and was informed by several bee raisers that the much abused cactus (both flat and bush) furnish a large quantity. It is beyond the shadow of a doubt that Colorado, especially the southern portion of the State, possesses some very decided advantages in regard to the winters over the northern and western States for bee-raising, and as honey keeps up (in Pueblo) to the old price of 25 cents per pound, we do not see why it does not pay.

☞ Notwithstanding we have so often referred to the matter—many, (thoughtlessly, no doubt,) still write correspondence on the *face* of postal cards. This is not allowed by the P. O. Department—and every such offense against the Postal Laws costs us 5 cents. These amounts are small, but they aggregate several dollars to us each month. Will our friends please be careful not to do so hereafter.

☞ Preserving fruit with extracted honey instead of sugar, is superior in every way. It is not so apt to sour and require a second boiling. Pick the fruit, wash it and drain off the water; then place it in a large kettle or pan and add one-third as much honey as here is fruit, boiling it until the taste of the honey has evaporated.

☞ A correspondent recommends the following for separating honey from wax: "Put honey-comb and all into a tin pail upon a moderately warm stove, adding a tablespoonful of water to each pound of honey. Stir occasionally with a piece of wire until the contents of the pan are in a liquid condition. Do not allow boiling to begin.—Remove the pan from the fire and set it aside to cool. The cake of wax, to which all impurities will adhere, may then be carefully lifted off with a knife."

☞ Friend Doolittle's fancy crate of honey, to which was awarded the Gold Medal in New York, last fall, has been exhibited, as such, by Mr. W. M. Hoge, in London, Liverpool, and other cities of Great Britain, as well as the Paris Exposition.

☞ The large podded milk-weed almost invariably causes the death of every bee alighting upon it. The bee either adheres to the plant, or else bears away a small scale sticking to its feet, and cripples itself fatally in attempting to remove the annoyance.

FROG-EATING BEES.—Now "Froggy" stands at the bar on trial for various thefts and robberies. My friends, the bees have a serious charge to make against him. One evening in July last he steathily crept up a slanting board placed against a beehive, and with his trap-like jaws caught the bees leaving and entering the hive. Why the bees did not charge him at the point of the bayonet I do not know, except it was his slimy coat of mail, on which they could get no foothold. Anyhow, the pet "Froggy" is not as innocent as he looks.—*Land and Water.*

RATS AND MICE.—Several correspondents write to announce the complete extirpation of rats and mice from their cow-stalls and piggeries since the adoption of this simple plan: A mixture of two parts of well-bruised common squills and three parts of finely-chopped bacon is made into a stiff mass, with as much meal as may be required, and then made into small cakes and baked; these are put down for the rats to eat.—*English Standard.*

Foreign Notes,

GLEANED BY FRANK BENTON.

HERR DENNLER, of the *Bienen-Zuechter*, has observed that his bees prefer the blossoms of wild grape vines to those of the linden, and he recommends the former very highly for cultivation in shady, out-of-the way places, old walls, north side of buildings, etc.

L'Apiculteur says of the apicultural show at the Exposition: "In visiting the pavilion containing the French apicultural products, we fear that more than one will say, when he learns what this or that cost the contributor and exhibitor: 'One should be able to produce a better article for that price; there should be a place more appropriate to the article, and to exhibit implements—otherwise than on tables—classed as far as possible in accordance with their order and use; they ought, as well, to be able to attach a different card in order to properly present some products.'"

THE WAX TREE.—"The wax-tree grows upon the Andes in South America, reaches a height of 150 feet, and is consequently one of the finest trees of the tropics. Its trunk, which at the base reaches a diameter of about two feet, is covered its whole length with wax, which can be scaled off. The scales are then boiled in water and the wax floats, without melting; it only becomes softer and the impurities settle. From this mass, with which a quantity of soap is often mixed to make it brittle again, they make candles. The wax obtained in this manner is yellow, light, transparent, nearly like resin; it melts at a temperature somewhat stronger than that of boiling water. When rubbed it becomes very electric, and gives out a very strong smell in burning."

CURE OF RHEUMATISM.—*Der Deutsche Bienenfreund* contains the following article by Herrn Schneider, Principle of a Royal Academy in Silesia: "Some six years ago my wife suffered from rheumatism in the right arm, no physician being able to help her. During a half year, in consequence of darting pains, the poor woman could not secure a night's sleep. The afflicted arm was nearly crippled; she could not attend to the household labors, and at last could no longer dress herself alone. I happened to recollect having read somewhere of the cure by means of bee-stings, of a farmer who was troubled severely with rheumatism. The pain which my wife must constantly endure could not be increased by a few bee stings, so I permitted the afflicted arm to be stung by three bees; and in order that the poison sacs might be completely emptied, I held the bees to the arm for some time. The result of this application was surprising. The first night my wife could, for the first time in six months, sleep well; the darting pain was gone. The next day the arm was swollen very thick, yet this rapidly decreased; the rheumatism had wholly left, and has not reappeared. I could mention a series of such cases in which the severest rheumatic pains have been successfully treated by the use of bee-stings, but it would only be a repetition, hence I will only add that the effect of the bee-stings always appears in the shortest space of time, and that this means has never been used without producing the most favorable results."

Notes and Queries.

Paoli, Ind., June 7, 1878.

"A neighbor of mine had a swarm of bees come out on Sunday, and on Tuesday, the second came. My second swarms never come under 8 days. I would like to know what made the 2 swarms come so close together. Bees have done well here in Southern Indiana, this spring; but the weather is so dry now that it is making clover honey short. My best wishes for the AMERICAN BEE JOURNAL."

B. M. LINGLE.

[Unfavorable weather may have delayed the first swarm from issuing till the oldest queen was ready to emerge from the cell.—In such a case she might, another queen being nearly ready to leave the cell, accompanying an after-swarm in two or three days.—ED.]

Delhi, Ill., June 1, 1878.

"Please give the name of the enclosed plant. It seems to be a species of clover."

H. D. EDWARDS.

[Prof. Beal, of the Michigan Agricultural College, answers as follows: "*Trifolium reflexum*, (Buffalo clover). I should like a package of seeds."—A. J. COOK.]

Hart, Mich., June 5, 1878.

1. "The 3rd inst. I was engaged looking up a queen in a last year's after swarm—did not find her the first time going through the hive—was just going to renew my search when I had to leave them and look to a swarm which was just issuing. After taking care of them, I returned to my search for *the* queen. Went through the hive again to the middle frame, when I noticed on the lower front corner of it, a knot of bees which I was certain contained the queen. I took it up and released her on the middle of the frame, thinking perhaps she would be safe there, but they immediately imprisoned her. I went for a cage to put her in, but when I had released her again, she was a corpse. The colony is a medium sized one. How shall I account for their conduct?

2. I also have 2 hives, with about a pint of bees in each. One of them contains a queen 2 years old, the other is 1 year old.—I have been nursing them, thinking perhaps they would build up when honey began flowing more freely, but on looking at them to-day, I find none of the larvæ fully developed, and many of the cells contain 2 and 3

eggs. Are these probably drone laying queens?

3. Are drones admitted to other hives than their home?

Bees in this locality are doing nicely on white clover and raspberries. Swarms are issuing nearly every day."

E. S. HOUGHTALING.

[1. The bees, evidently, were dissatisfied with the queen, and were determined to supersede her.

2. The queens are disabled, or drone layers. You should either give them a prolific queen, a queen cell, or double them up with some other colony.

3. Drones, having no propensity for robbing, have no desire to enter other hives than their own.—ED.]

Council Grove, Kansas, June 3, 1878.

"In the hive recommended by Prof. Cook, in his *Manual*, there is no provision for ventilation, in case the entrance is entirely closed. How would it do to have a hole, 4 to 6 inches square, through the bottom board, the hole to be covered with wire screen and open at all times? Will not bees do better for such ventilation? Please answer through the JOURNAL."

D. P. NORTON.

[If the hives are shaded they need no ventilation more than spoken of in my book. When cool, they ought to have only one opening, and that small. As the weather gets hot, push the hive clear forward, so as to give entrance clear across. That is enough. Of course, they must be given plenty of room inside. I *would never have more than one entrance.* I have experimented much, and find more worse than useless. See new book on this subject.—A. J. COOK.]

Otley, Iowa, April 30, 1878.

"Father and I put 81 colonies of bees into the cellar, about Nov. 17. Took them out about March 13. Wintered without loss.—Seem to be in fine condition now, with the exception of 2 or 3. Apple and cherry bloom very good. Think prospects are good for an excellent honey harvest.—Everything about a month earlier than last year. I like the Bingham smoker very much. What is the best method of straining extracted honey?" W. C. NUTT.

[This question is answered so concisely in Prof. Cook's new work that we will insert it here. Before doing so, let us remark that every beginner, or person of limited experience in bee-keeping, would find it greatly to their advantage to get a copy of this work. They will there readily find, by the aid of copious indexes, any subject they may want information upon.—It will save them much perplexity, and often many times the price of the book, by having it at hand just the minute when the information is desired. In the "Manual of the Apiary," page 198, Prof. Cook remarks: "To render the honey free from small pieces of comb, or other impurities, it should either be passed through a cloth or wire sieve—I purposely refrain from the use of the word strainer, as we should neither use the word strained, nor allow it to be used, in connection with extracted honey—or else draw it off into a barrel, with a faucet or molasses gate near the lower end, and after all particles of solid matter have risen to the top, draw off the clear honey from the bottom. In case of very thick honey, this method is not so satisfactory as the first. I hardly need say that honey, when heated, is thinner, and will of course pass more readily through common toweling or wire-cloth."—ED.]

Indianapolis, Ind., May 22, 1878.

"My bees are doing finely. They wintered well. I have a bee house that I think good to winter as well as to summer in.—They are now working in boxes. Is there Comb Honey Racks to suit hives, 12x13 inches, with frames 12x12, and what will such cost? Alsike is just coming into bloom. I have about 2 acres. It looks well." W. A. SCHOFIELD.

[Yes, such is described and illustrated on the third page of the cover of this JOURNAL. It would contain two rows of boxes, 12 in all. A sample, all complete with outside boxes glassed, and tin separators, costs a dollar. By the quantity they would come cheaper than that.—ED.]

Putnam Co., Ill., June 14, 1878.

"DEAR EDITOR:—My bees made a little fortune last year. My 200 colonies produced 1,200 4 lb. boxes of honey. I sold 30 colonies, leaving 170 and 4 swarms, up to June 13. I do not expect many swarms this season. The hives were very full of bees and honey early in May. Since then they have done poorly; now there is a little white clover. The drone comb foundation that J. Roberts and myself got of you is of excellent quality. Bees are doing well with it. Please answer the following questions:

1. Why are drones sometimes produced in worker comb?

2. Two of my queens produced worker bees in March and April. In May they produced drones in worker comb; then I killed them.

3. Is there three sizes of comb foundation manufactured, — worker, drone, and for honey?

4. I would like a pure Cyprus queen, but do not know how they should look to be genuine. Can some one give a description?" OTTO HALBEIB.

[1. When there are no drone cells, queens will sometimes lay in worker-cells, and if

compelled to do so, will, reluctantly, lay worker eggs in drone cells.

2. They were for some cause, no doubt, unable to produce workers any longer, and hence the drones in the worker comb.

3. Two sizes of cells only are produced—worker and drone. The latter is preferred for surplus, by some.

You will find such description on page 237 of this JOURNAL.—ED.]

Montgomery Co., Texas.

"I inclose a branch with flowers of the wild peach. It is an evergreen; grows abundantly on the margin of creeks and river bottoms. Bees crowd it heavily; I think it very valuable for bees.

"I also send you a specimen of a plant abundant here. It comes up in the fall and grows slowly through winter, not leaving the ground (like white clover,) covering the ground by the first of March; holds dew on the under side all day. In the sunshine the bees work on it all day. I have seen no blossoms yet. I never noticed it before this year. The winter having been very warm, many of my bees ate up their winter supply and perished during January and February. My summer and fall pasturage is not good. The spring, till June 20th, is very fine. It closes with the linn. We have very many fine localities for bees in this State. Three-fourths of south-eastern Texas is woodland, and all creeks and small streams abound with bee pasturage. There are a great many wild bees in the timber and bee hunting is frequent in the fall. Some bring in 2 or 3 barrels of honey. THOS. D. LEONARD.

[Prof. Beal says that the tree with evergreen leaf is *Prunus Caroliniana* (cherry laurel). The leaves are said to poison cattle which eat them. The small herb he does not know; he would like to see some in flower.—ED.]

Boundary City, Ind., May 31, 1878.

"I raised 7 queens from the imported queen I got of you last fall. They are not as bright a yellow as the mother. I raised one from a home-bred queen that is of a brighter yellow than either of those from the imported mother. Those from the imported mother have two black spots on their backs by the yellow rings—the other one has not. Which are the purest, those with or without the black spots?"

D. K. KNOLL.

[Imported queens are procured, usually, to infuse new blood into the apiary, and not on account of their personal beauty. Their American progeny sometimes vary, being either lighter or darker perhaps oftener than of the same color as the mother.—Their progeny—the workers—forming the test of purity. Of these you do not speak.—The black divisions between the yellow bands (which we suppose you mean by the spots by the yellow rings) are sometimes more pronounced, but usually less distinct,—they have nothing to do with purity in queens.—ED.]

Eminence, Ky., June 17, 1878.

"Is it practicable to feed extracted honey to bees during the dry summer weather when there is little or no honey to be had from flowers and have the bees make section comb honey of it with profit, and how to do so? The theory looks plausible, but I would like to know if it has been demonstrated, and to what extent it will pay. It seems to me that it would stimulate brood-raising and keep stocks strong and ready to gather large stores from buckwheat and other fall pasturage. If the extracted honey can be changed to section comb honey it would be more salable.

2. I want some arrangement in the way of a comb-rack that can be worked two stories or one, as circumstances may require. On many of my hives the sections are nearly all full but the honey is not ripened sufficiently to seal over, and the bees want to swarm because of not having room. If I had racks that would suit to just slip one under the almost completed sections, full of empty ones, I think the bees would be happy, not swarm, and more clover honey would be secured. I intend to have some such another season. E. DRANE.

[1. Will those who have had experience in feeding honey to bees for the purpose of getting them to store it in surplus boxes please report the result of their experiments?

2. A Rack to admit of "tiering up," is described on page 240 of this JOURNAL.—ED.]

Noblesville, Ind., May 8, 1878.

The queen of one of my best colonies has raised one lot of brood but will not lay any more eggs, and the bees will not work; they have some honey. Why is it, and what is the remedy?

With a fair season how many stands ought I make from three good colonies and get 100 lbs. honey? L. M. WAINWRIGHT.

[Of course the queen is disabled and should be superseded. As the colony has no brood, the bees cannot raise a queen unless you give them a frame of brood or a queen-cell. If you have no surplus queens you should give them a queen-cell or brood at once. One swarm from each colony is sufficient if you want 100 lbs. of honey. So much depends upon the season that no one can give a definite rule.—ED.]

Benton Co., Miss., June 10, 1878.

"I am troubled by the moth-worm; how can I get rid of them?" L. Z. D.

[Strong Italian colonies are not troubled with moths. Keep your colonies strong, and they will never become mere nurseries for worms.—ED.]

Conventions.

North-Western Illinois Convention.

The North-Western Illinois Bee-keepers' Association met at Rock City, May 7, 1878, President H. W. Lee in the chair. The minutes of last meeting were read and approved, and 6 new names were added to the roll. A letter from the Secretary of the Western Illinois Bee-keepers' Society, asking us to change the name of our society, was read, and laid on the table without discussion. The Secretary handed in his resignation, which was accepted, and Jas. E. Fehr was elected his successor.

It was decided by a unanimous vote not to change the name of our Association.

DISCUSSIONS—UNITING COLONIES.

Mr. Hodgkins scented with peppermint.

Mr. Holly united in cool weather, by lifting frames and bees out of one hive, and putting them into the other hive; and they were always accepted.

Mr. Fehr unites the same way; prepares them in the middle of the day by taking half of the comb out of both hives, moving the combs in one hive to one side of the hive, and in the other hive to the middle; then in the evening, lifts combs with bees in the latter and sets in the former. Sometimes takes one queen away and sometimes not, and the bees never quarreled.

Mr. Lee thought they might not kill the one queen and keep both. He had several cases of 2 queens in 1 hive.

Mr. Conklin has frequently united by putting one hive above the other, when putting them in the cellar, taking off the bottom board of the upper one.

WHY BEES DESERT THEIR HIVES IN SPRING.

Mr. Holly thinks it is for the want of pollen. He said there must be one universal cause, or why did they swarm out one spring, about 8 years ago, all over the country, as reported in the journals? He had seen them so desert their hives in June, in very dry weather, when there was no honey or pollen. He had not seen any desert their hives when they had pollen.

Mr. Hodgkins thought it was dampness. Had seen a neighbor's bees swarm out, when, upon examining the hives, he found the combs and hive wet and damp.

Mr. Lee had seen them desert the hives with plenty of honey and pollen; thought starvation would drive them out; thinks the black bees desert their hives more than the Italians.

CAN COMBS BE USED SUCCESSFULLY AFTER BEING MOULDY?

Mr. Holly had lost many bees in wintering, when he had box hives. Combs would be mouldy. He would cut out all mouldy comb.

WHICH IS MOST PROFITABLE, EXTRACTED OR COMB HONEY?

Mr. Holly thought people were getting to know the pure from the adulterated honey. This will increase consumption.

Mr. Conklin had created a demand for extracted honey, by leaving samples at the grocery stores, and allowing every one to taste it.

WHAT TIME IS MOST APPROPRIATE TO PUT BEES INTO WINTER QUARTERS?

Mr. Hodgkins put his into winter quarters 6 weeks before cold weather. He would make sure of housing them before cold weather. They always wintered well when put in early.

Mr. Lee would put them in during the first part of November, if he felt certain they would stand the long confinement.—He always gave them upper ventilation.

WHAT WERE THE RESULTS OF WINTERING DURING THE PAST SEASON?

Mr. Williams lost more bees during the last winter than ever before. He wintered in the cellar. They got too warm and smothered; consequently, his bees are weak.

Mr. Lee lost 1 colony, out of 201 colonies.

Mr. Hull lost 1, out of 59.

Mr. Holly wintered 62, lost one.

Mr. Conklin had 39 and lost none.

Mr. Hodgkins wintered 40 colonies and 4 nuclei, and lost none.

Mr. Stewart wintered 83 without loss.

Mr. Adams had 11, and lost none.

Mr. Keister lost 9, out of 73.

Mr. Fehr had 45, and lost none. Some were very weak, and he united them, leaving but 39.

R. M. Milliken, Mr. Stewart and Mr. Keister were appointed a committee to revise the Constitution.

RESOLUTIONS.

The following motions were carried unanimously:

Resolved, That we appreciate and recommend the invention of H. W. Conklin, for fastening comb foundation into brood frames, by 2 saw kerfs; one horizontal, the other diagonal, same as described in the AMERICAN BEE JOURNAL for May, page 142.

Resolved, That we extend our warmest thanks to Mr. and Mrs. Jonathan Stewart for their courtesy and hospitality so generously tendered to us.

Resolved, That our next annual meeting be held at Shirland, on the 3d Tuesday in December, 1878.

Resolved. That we adjourn to meet on the 1st Tuesday in September, at the residence of R. M. Milliken, Dakota, Stephenson Co., Ill.

JAS. E. FEHR, *Sec'y*.

Los Angeles (Cal.) Convention.

A meeting of the bee-keepers of Los Angeles County was held on May 18, 1878.—A. J. Davidson in the chair. The minutes of last meeting were read and approved.

The Committee on Packages presented a report, and exhibited sample barrels, made at Anaheim, 15 and 20 gallons (holding from 200 to 250 lbs.), substantially made with iron hoops, and the ends of the barrels painted, costing respectfully $1.50 and $1.75; cans, square with screw top, 10 lbs. per 100, $16; 5 lbs. per 100, $13 and $12.50; round, 10 lbs. per 100, $13; round, 5 lbs. per 100, $10; round, 2 lbs. per 100, $6. The latter cans are without screw top, and are soldered. The additional cost of waxing the barrels will be from 20 to 25 cts.

After much discussion pro and con, Wm. Muth Rasmussen offered the following, which was adopted:

Resolved, That the bee-keepers be requested to adopt the barrels this season.

J. E. Pleasants stated that the bee-keepers of the Anaheim district had adopted them this season, and that freights were less on honey in barrels than in cans.

A. J. Davidson stated that he had taken 5,000 lbs. of honey. It was also stated that the firm of Lincoln & Kimble, and others, had taken much more.

Wm. Muth Rasmussen said he had tried the experiment of breaking the caps of the honey cells in the brood chamber, to cause the bees to build comb more rapidly in the upper chamber, and found it worked well, and that the bees would carry the honey above.

E. W. Sinclair exhibited a specimen of honey, made from boll-sage, which was of most exquisite flavor, and so transparent that the honey was of little or no obstruction in reading a paper through the bottle.

Mr. Chapman spoke in the most commendable terms of comb foundation. He had used $15 worth this season, and wanted as much more.

As the working season is now upon us, another meeting will not likely be held until late in the season. The subject of a display at the coming Horticultural Society was taken up and discussed. Some objections were made in consequence of the Society having packed the premiums at the last fair, that too many drones in the hive consumed the honey. It was agreed that a fair deal on the part of the Horticultural Society, at the next fair, would insure a good display in the agricultural department. No decisive action was taken, and, on motion, the meeting adjourned, to meet on the third Saturday in August, to convene in the hall over the Grange Store, at 1 p. m.

N. LEVERING, *Sec'y.*

Ventilation.

Read before the N.E. Bee-keepers' Association at Rome, N. Y., Feb. 1876, and published by request of the Society.

Industry, skill, and economy, will secure a competence in almost any legitimate pursuit. Without these three essentials, business becomes a mere lottery, with many more blanks than prizes; and although the prize of success may occasionally be obtained, it adds nothing to the credit of the obtainer.

Formerly, bee-keeping was supposed to be a highly favored pursuit, success depending not upon the amount of labor and skill employed, but upon the possession of a mysterious something, called *luck*.—Happily, wiser counsels have prevailed until, at the present time, our leading apiarists are united in the assertion "That the greatest enemy of the bee is the ignorance of man." Nowhere do we see the truth of this statement more conspicuously shown than in that much discussed branch of our business, wintering; and were we, to-day, to examine in detail the many theories advanced, and the equally numerous practices founded upon them, we should be compelled to accept the conclusion that luck more often than wit is still to have the credit of success.

As a discussion of the whole subject of wintering would require too much time and space, I will confine my thoughts principally to ventilation while in winter quarters; (a subject upon which no two authorities agree), and in order to be consistent, I shall have to disagree, to a very large extent, with the many that have preceded me. At the outset, we shall have to satisfy all that bees require the accession of fresh air to maintain life and health, a proposition that common sense would answer by an emphatic *yes*, but to which many bee-keepers give as equally an emphatic *no*, and bring forward many illustrations to prove the truthfulness of their theory.

Gen. Adair, in an elaborate paper on ventilation, mentions having had a honey box, the air-space of which was half filled with living bees. After proving, to his own satisfaction that it was air-tight, by blowing into it, as a cooper does into a barrel, he covered the entrance with waxed paper and set it away for a couple of days. He then examined it and found that the bees did not seem in the least inconvenienced by their confinement.

Prof. Cook, of the Michigan Agricultural College, reports that one of his most prosperous colonies, in the spring, was one that had the entrance to the hive completely filled with ice for nearly the entire winter. But more important than either of these experiments is the well known fact that bees have been buried for months under ground, with no provision for ventilation, and with the surface of the ground frozen solid during the whole time. Are any more facts needed to prove that ventilation is unnecessary? We might subscribe to this, did we not know that bees require food at all times, and that from 1 to 3 lbs. of honey per month is consumed by each colony, while in winter quarters. Chemistry tells us that the consumption of this amount of food requires the introduction of a larger amount of atmospheric air. It also tells us that the combustion of 3 lbs. of honey, within the body of the bee, produces 2¼ lbs. of watery vapor, and nearly 24 cubic ft, of carbonic acid gas. The free atmosphere contains but 3 or 4 parts of carbonic acid in ten thousand, and the best European authorities are united in asserting that for the respiration of man, it should never contain more than ten parts in ten thousand. Marker and Schultze, of Germany, in their researches on the natural ventilation of stables, have found that for domestic animals the proportion may safely run three times as high, or 30 parts in 10,000.

On the supposition that bees need an atmosphere no more pure than this, we find the consumption of 3 lbs. of honey requires the passage through the hive of not less than 8,000 cubic ft. of air. As the brood department of our hives usually contains less than a cubic foot of free air; this necessitates the complete removal of this air, at least, 8,000 times.

These figures, undoubtedly, seem large, but if I should say that 200 colonies of bees require as much air as their owner, you would not be surprised, but think the estimate quite small. Now, Gen. Morin, of Paris, (see Smithsonian Reports,) has furnished us the best of proof, (experimental, not theoretical), that in close apartments, in order to keep the atmosphere around him sufficiently pure, man requires over 2,100 cubic feet of air per hour, a result subscribed to by the best authorities in Europe. This is largely in excess of the amount required by 200 colonies of bees, supposing each to consume 1½ lbs. of honey per month.

But where did the bees in close confinement get their supply of air? There is no proof given that the receptacles were air-tight. Adair's test only proves that the outlet was immeasureably smaller than the inlet; and it is not claimed that Prof. Cook's hive had no crevices through which a limited supply of air might not enter. I have had the entrances of several hives closed for weeks at a time, without serious inconvenience to the inmates, but I know the connections were not air tight. Even if they had been, the bees would have received a considerable quantity of air through the walls of the hive.

It is a well established fact that atmospheric air freely penetrates the tissues of all plants. Corewinder found that a single colza plant, in 12 hours, decomposed 2 qts. of carbolic acid gas. Bousingault found that 12 square feet of oleander leaves decomposed about the same quantity.—These results prove that a very large quantity of air must have coursed through the plant. Some idea of the size of the "breathing pores," or *stomata* may be formed, when it is known that 100,000 of these openings may be counted upon an average sized apple leaf. Although the leaves are much more pervious than the stems, air in various degrees of purity may be found in all parts of the plant. If green wood allows the free passage of air, certainly dry wood will be more pervious. We all know how freely wood imbibes water, and it is safe to say that air will go wherever water can, for it is 770 times lighter. On the supposition that one-half as much air passes through an unpainted inch board as through a limestone wall, well laid in morter, (not an extravagant supposition, I think you will say), I find by computation, that with the size of hive we use, so long as the hive walls remain dry, quite a large per centage of the air required by the bees in winter will enter this way. In proportion as the wood hive becomes saturated with water is the passage of air impeded, a fact of much importance in wintering.

How about the bees buried? Facts are on record, showing that men have been buried for days at a time and were not suffocated. Certainly, when men can live, bees ought to, as they require so much less air. But the men were not buried under frozen ground, you say. Von Rettenkoffer, than whom there is no better authority living, says that he believes frozen soil to be not much less impervious to air than the same soil unfrozen. I have not space to give his reasons, and will only say that he seems to have the best of the argument. He says, in regard to the free passage of air through the ground, "I know cases where persons were poisoned and killed by gas, which had to travel 20 feet under the street, and then through the foundations, cellar, vaults and flooring of the ground floor rooms."

In wintering bees underground, we need not have so much fear that the quantity of air will fall short, as that it will be deficient in quality. A year ago, in reading Prof. Johnson's admirable treatise on "How Crops Feed," I learned of the impurity of the soil air. It usually contains all the moisture it will hold, and from 10 to 390 times as much carbolic acid gas as the free atmosphere. In sandy soil the air is the purest.

To keep the soil air out of our bee cellars, last fall, we carefully coated the sides and bottom with hydraulic cement, and I find that it makes them much dryer and better.

The material of which your bee house is built will influence the amount of artificial ventilation needed. In order to give you an idea of the extent of natural ventilation through the walls of buildings, I cannot do better than again quote Rettenkoffer:—

"For every square yard of wall surface, at 9½° fahr. difference of temperature, the spontaneous ventilation, or passage of air through the wall, amounts per hour to

4.7	cubit feet,	with	walls of	sandstone,
6.5	"	"	"	quarried limestone,
7.9	"	"	"	brick,
14.4	"	"	"	mud."

We prefer to build our wintering houses of earth. You would at first conclude that sandstone walls would be more porous than limestone, but sandstone is a smoother stone and does not require so much mortar. It is the mortar that admits the larger part of the air. There has always been a serious disagreement between theoretical and practical ventilation, until a consideration of the extent of natural ventilation reconciled the difference. Many interesting experiments are on record. With suitable apparatus, candles are extinguished by air blown from the mouth through solid brick walls, a foot in thickness.

Another mistake still current in some of our text books on ventilation is the statement that impure air, being heavier than pure, falls to the bottom of a room and remains there, unless provision is made for its outlet at that point. These authors are ignorant of the law of the diffusion of gases. Gases intermingle perfectly, no matter what the variation in density. Usually there is not much difference in the purity of the atmosphere in the various parts of a room, unless the changes are quite rapid.

A consideration of the moisture of the air, as well as of the practical appliances for ventilation must be deferred for the present.

S. H. ELWOOD.

Starkville, N. Y., Feb. 1, 1876.

MR. EDITOR:—The publication of this essay has been postponed with the expectation of reviewing and correcting it.—Further changes will be made in our ventilating apparatus, and I prefer to test thoroughly before recommending. S. H. E.

June 1, 1878.

Lancaster Co. (Pa.) Association.

The Association met on May 13, at Lancaster. The following members being present: Peter S. Reist, Litiz, President; John Huber, Treasurer, Pepuea; Daniel Krider, West Lampeter; I. G. Martin, Earl; Ellis Hershey, Paradise; J. F. Hershey, Mount Joy; J. B. Eshleman, Ephrata; J. G. Rush, Pequea; John H. Mellinger, Strasburg; E. H. Mellinger, Strasburg.

On motion, F. R. Diffenderffer was elected temporary Secretary.

REPORTS.

Mr. E. Hershey said, last fall he disposed of all his bees but 15 colonies, which came through the winter all right. Had no swarms so far.

Mr. Rush reported that out of 7 colonies he had lost 1; 1 colony has swarmed twice, and both are doing well. The prospects for a honey crop are good.

Mr. Mellinger reported that all his colonies came through the winter very well; has had 5 new swarms. One colony has sent out 3 swarms, and another will send out 2.

Mr. Martin reported that he had wintered 16 colonies; he packed the hives in chaff, and they came through well. He had no swarms yet.

E. Hershey went into winter quarters with 62 colonies. He built a bee house, and brought all his colonies through. So far, 9 have swarmed. Some of his neighbors have new colonies. The season has, up to this time, been unfavorable to the production of honey.

Mr. Eshleman read a letter from W. J. Davis, of Warren county, who was expected to be present. He had wintered 153 colonies and lost 9. The letter further stated that the bees were hard at work, and the prospects for a large honey crop were very good. The speaker stated, in reference to his own bees, that he had wintered 22 colonies, and all had come out. There was no trouble in keeping bees the past winter as it was so mild.

Mr. J. F. Hershey stated that W. B. Detweiler, a neighbor of his, had put up 72 colonies last fall, and lost none. Mr. Myers' bees also came out well, but none have swarmed.

President Reist said that he started with 4 colonies, which gradually increased to 50 or 60. These he disposed of by selling or by placing them with neighbors. Of those put out in shares, all the colonies are doing well. One colony swarmed 3 times. He wintered on summer stands. Bees, everywhere, are going well, and gathering honey rapidly. He uses the Langstroth hive.

QUESTIONS DISCUSSED.

Mr. Hershey asked in what condition a colony should be to be divided, and at what time it should be done. On this question he gave his own views. He thought the hive ought to be strong in bees and honey. If the colony is divided in the honey season, the old colony does not get strong enough to gather a stock of honey large enough to enable them to pass the winter; but if you wait until the hives are full, they can be divided safely. About 3 weeks from the present time they should be divided. The young swarm should have 3 weeks to gather its winter stock of honey. He preferred artificial to natural swarming. Has lost a colony which he did not attribute to artificial swarming but to cold weather. After the 15th of June it is unsafe to divide a colony; however, this season, the limit should be placed about 2 weeks before that time, as the season is so forward.

Mr. Rush would rather depend on a natural swarm than upon Mr. Hershy's plan; he saw no advantage in that method.

Mr. Martin used a good deal of artificial comb foundation, and liked it very much.—He has found as many bees to hatch out of them as when they are not used, although it is stated that the product is much less.

Mr. Eshleman's question was, "will a natural swarn accept immediately a strange queen without caging?"

Mr. Hershey said if an artificial swarm was divided it would not accept a strange queen; what a natural swarm would do he did not know.

Mr. Martin had no experience in the matter, but had read that the strange queen would be accepted.

Mr. Eshleman said his reason for putting the question was to ascertain whether a colony could in that way be Italianized.

"Will it pay to feed between apple bloom and white clover blossoms?" was asked by J. F. Hershey.

Mr. Martin thought that if they were fed until clover comes in bloom, they could then go to work in earnest.

Mr. Hershey was of the same opinion.—But if the colony had an abundance of old honey he would let them consume that; then there is no advantage in feeding them. He fed them through a tin trough, about 1 inch wide, which is filled through a tube from the outside. The best thing to feed to them is honey; the next best, sugar and water, in equal proportion. Best brown sugar should be used. Honey stimulated the bees to breed more than sugar did.

President Reist asked whether moths can get into hives without their laying eggs there.

J. F. Hershey said that moths do not lay eggs in the hives. They lay them on the outside, and the bees carry them in themselves. Moths will go into a weak colony, but not into a strong one.

Mr. Reist said he had heard that moths would not go into strong hives; but it was not true. They would go into any hive.

Mr. Eshleman had discovered that the moth would, if it could, deposit its eggs under the honey board, and the worm would then work its way into the hive.

Mr. Mulligan said you could not keep worms out of the comb. He had placed some in an exposed place on one of the coldest days in winter, but worms come out nevertheless.

J. F. Hershey proposed the question, "How soon should the second swarm appear after the first?" and it was briefly discussed. He thought it should be 9 days after, as did other members, but Mr. Mulligan said that under certain conditions it could appear 7 days after.

Mr. Diffenderffer, when the question of the time of next meeting arose, said he hoped that it would be just in the fruit season, so that they could discuss the question, "Do bees destroy fruit?"

Mr. Eshleman said he did not believe a bee could cut the skin of a grape, though they might cut through paper. Grape skin is almost as tough as leather.

Mr. Rush asked if any one could propose a plan by which it could be tested; and it was proposed to put molasses on a bunch of grapes and cut the skin of one grape. If the bee sucks the inside of the cut grape out, and does not touch the others, it is a reasonably sure sign that they cannot pierce the skin.

Mr. Eshleman said he would put a bunch of grapes at the opening of a hive, and then the bees could not get out without cutting the skin of the grape. If this did not test the matter, he did not know what would.

The Society then adjourned to meet the 2nd Monday in August.

J. F. HERSHEY, *Vice President.*

Chips from Sweet Home.

Read before the Western Ill. and Eastern Iowa Convention.

MARKETING HONEY.

Our worthy Secretary has given me this question to write upon and read to you. I presume it was his object to have me tell what *little* I know of how to market honey; and that is much less now than 2 years ago, and I knew less then than I did 5 years previous. In marketing honey, we wish to realize the most out of our summer's labor with the least expense, or in other words, How shall we put up our honey to make the most *net* profits, and to whom shall we sell it?

How we should put up our honey would depend entirely upon whom we sold it to.—The bee-keeper who has but a few hives and a home market for all he can produce will need to satisfy that demand with the least expense. If that demand be from neighbor farmers, mechanics, or druggists who buy it as an article of diet or medicine, empty it out of the indigestible comb, and sell them the cheapest honey in the best shape for consumption, and to you the most profit. Among this class there will be those who prefer honey in the comb, perhaps for looks, or fearing you may adulterate it. For those, you will need the 6 lb. box with one glass; this contains about the amount they wish at a time, and is in a neat, convenient shape to carry.

If your market should extend to the village or smaller towns, then satisfy the demand there for the least expense. Some will want the extracted honey; others, perhaps the majority, will want honey in the comb in packages, with no glass and as little wood as possible. To satisfy this demand, I know of nothing better than the Prize or Doolittle section, which holds nearly 2 pounds, being as large an amount as the consumer wants to buy, and as small as the retailer wishes to handle or that will pay you to put up.

Have your boxes or sections neatly made, and, above all, new and clean. By using guides, either comb or foundation, you can have your combs separate and straight, which not only adds system and neatness, but the consumer is able to cut them out of the frame or box in a nice cake instead of irregular, leaky pieces.

Of your extracted honey, *never* sell an article poor in flavor, or that which is dirty, or has soured on your hands, for you will lose more customers by so doing than you will make dollars. Better keep it to feed the bees.

In buying the different articles you need, trade as much honey as you can. Supply your blacksmith, shoemaker, or others you deal with, for in so doing you are marketing your honey and saving the cash (if you are fortunate enough to have any.

If your market should be in the larger towns or cities, then you will need to fill the demand there created. That demand is fast dividing into two classes, viz: those who buy honey to eat as an article of diet or medicine, and those who buy as an article of taste and luxury to adorn the table. Those who buy honey for the good there is in it do not wish to buy any expensive vessels that when the honey is gone will be useless, but will furnish their own, as they have always done when buying molasses or syrups. Now we come to the class most difficult to please. They buy honey to have something extra and nice; they are able and will pay a good price for that which pleases the eye and palate, none other being wanted at any price; they have their groceries delivered at their door, consisting of a variety of packages, done up in all shapes and sizes; among the rest, a cake of comb honey is to be delivered, free from leakage or dirt, not a cell broken, but just as nice as when taken from the hive. The retailer or groceryman is also a fancy man, dealing in fancy articles for fancy people; his time is precious, his goods the finest and best the market affords, some of which are called for if not seen; but honey must be exposed to view in the window, on the counter, or piled up at the door. He has no time to divide Harbison sections, cut combs out of boxes, neither will he have any leaky packages to daub his customers and his goods, to call in flies or fine-haired men who delight to stick a finger, knife or pencil in that tempting, beautiful comb just to taste it. To fill this demand taxes our ingenuity, and many, very many, are the ways tried to fill and cater to this class of customers, as may be seen by visiting the groceries of our large cities. To meet this demand with the least expense and the most profft, I know of nothing better than the Prize crate and box, each comb to be built so as to be glassed or not as the trade may determine.

In selling honey in our vicinity, I find it necessary to have a *price* and not vary from it. In order to have a fixed price, we must know as to the demand, the amount on the market, quality and grade, and last, but not least, we must have a wholesale price as well as a retail one, so that we shall not undersell those who buy of us for retailing. Our labor and time to sell is worth as much as that of our groceryman, which I usually make at 5 cents a pound, *i. e.*, I charge 5 cents

per pound more when selling a few pounds only than I would on a sale of 100 pounds. If selling by the 1000 pounds, I should make the price still less.

We must make a difference in the prices of extracted and comb honey. We can sell the extracted honey at a low price which will be within the reach of all who wish to *eat* it as regular as butter. We can afford it at a low price, but the comb honey we cannot; and we do not need to, for it is not bought as an article of diet but as a luxury —to have something a little extra—and, brother bee-keepers, we must get this comb honey in such shape as will appear extra nice for an extra price.

To create a home market among our neighbors, relations and friends, among those who frequently eat at our table, or call in while we are *eating to live* (not living to eat), we should always have honey on our tables in such dishes as are suitable for the show and convenience of handling. A large syrup stand for liquid honey in summer is convenient and neat. An open dish for candied honey in winter, and if we wish to ornament our table with comb honey, then put a nice cake in a fruit glass with lid. Make it appear, as is really the case, that we have plenty of honey and can afford to eat all we want and at all times, thereby setting a silent example to induce others to do likewise. Eleven years ago I took dinner with a bee-keeper, who had honey on the table in such a dish, and the conversation was such as to show me that it was not expensive as a regular article of diet. How opposite are the silent teachings of a small glass with a teaspoon! If he cannot afford to have plenty, I cannot.

Friends, if I have not written in the usual way for such articles, just remember that they are only a few dry Chips from Sweet Home. D. D. PALMER.

Eliza, Mercer Co., Ill.

Central Kentucky Convention.

The semi-annual meeting of the Blue Grass Bee-keepers' Association took place on Tuesday, May 7, 1878.

The meeting was all that could be desired, except for the unavoidable absence of two of its most prominent members, who were expected to deliver addresses, namely: Dr. S. E. Mitchell, of Bourbon Co., and John W. Bean, of Clark county.

President Patterson called the Convention to order. On motion, the rules were dispensed with, and opportunity allowed those who were not already members to become so, when 7 gentlemen enrolled.—After the reading of the minutes of the last meeting, President Patterson delivered the following able and instructive address, on

THE ORIGIN AND VALUE OF CO-OPERATIVE EFFORT:

Following the example of others in the United States, the bee-keepers of Northern and Central Kentucky felt that the interests of bee culture and the economical and commercial results which may be legitimately expected therefrom demanded an organization, which should unite the efforts and bring together the intelligence of those who apply themselves to this pursuit—such an organization, moreover, as would co-ordinate the experiences and subject to practical tests the various views, which from time to time obtain currency among those who, for pleasure or profit, study the habits of the industrious little workers.

In response to the invitation and suggestion of the Secretary, I propose very briefly to say a few words on the benefits of co-operative effort, and the grounds on which it rests.

Co-operative activity is a special phase of modern culture and enterprise. But it is by no means of recent or factitious growth. It began with the dawn of human existence, and found its earliest form of expression in human society. The family, the tribe, the municipality and the state are all various forms under which it manifested, and still manifests its existence. Isolation is incompatible with human instincts as well as with human interests. We can not conceive of an existence for the race in which, literally speaking, every man's hand is against that of every other. In the infancy of mankind the conditions and necessities of existence brought them together for mutual defense, and for the attainment of a common subsistence. In subduing nature, man would have been powerless without the co-operation of his fellows. When the first means of defense were provided for, when by common effort immunity was secured against attacks of the savage beast, when shelter from wind, storm, frost and snow were obtained, and the means of temporary subsistence acquired, the foundations of civil society were laid. The spontaneous impulse of a common sympathy, quickened by the apprehension of a common danger, brought men together and actuated them to united effort.

Out of common effort grew common rights and common obligations, which, recognized by a common moral sense, were antecedent to all legislation, and were the roots from which legislation sprang. Thus the sympathies, interests and instincts of men, shaped almost unconsciously for them the beginning of society, and established the unwritten law upon which rested the foundations of civil government. From these germs grew the mighty fabrics of ancient nationality. Upon this foundation was built the colossal structures which aspired to universal sovereignty, and which, in the splendid succession of ancient monarchies, beginning on the banks of the Tigris and ending on the shores of the Bosphorus, went far to realize the possibility of world-wide dominion. But the idea of co-operation and organization found expression in other forms, and in other relations than in civil government. Its beneficent results were not confined to the family, the city, the canton and the State.—When men looked into their own consciences they discovered thoughts and feelings, hopes and fears, rights and obligations not bounded by the narrow limits of material organization around them. While men in general were drawn together by a common sense of dependence upon something beyond and above nature, some in

particular were attracted to common effort by the attempt to formulate and interpret the intellectual activities and moral impulses interwoven with their being—activities and impulses shared with the many, but whose import and significance the many failed to appreciate. Hence the variety of culture and ceremonial, which sometimes united people, and sometimes placed them in antagonism, and hence the philosophic schools and theosophic mysteries of various kinds, with reference to which all ancient literature abounds.—These, impressing a common thought and kindling a common desire, fostered the growth of human intelligence, deepened and quickened the moral sense, and elevated mankind to conceptions more or less adequate to their origin and destiny.

During the middle ages, when commerce began to be a great factor in human progress, and the burgher class attained an importance in the state unknown to antiquity, commercial unions were formed, and tradesmen allied themselves together for mutual protection. These leagues and guilds contributed not a little to the growth of civil liberty, by the concessions which they extorted from time to time from the central power. Protected at first by the central power, and supported as a counterpoise to the arrogance of a turbulent feudal nobility, they in the end consumed the vitals of the despotic power by whom they were encouraged, and by whose sufferance and countenance they had existed. During these times of dissolution and reconstruction, of meek submissiveness and high-handed violence, when nations and races were unconsciously working out their destinies, the co-operative activity of the guild, of the league, and of the cloister—agencies diverse, having little in common, and often antagonistic, each on its own line of action, and productive of diverse results, but afterwards co-ordinate to a common end—played no unimportant part in the transition from the civilization of antiquity to that of the modern era.

But it is not to ancient or mediæval times that we must look for the fullest development of co-operative activity. The revival of letters gave, by the diffusion of knowledge, a vast impulse to united action.—Many who, under the conditions heretofore existing, knew little and cared less about how the world was governed or what the thoughts of men were, found a new light dawning upon them. The enfranchisement of the minds and bodies of men raised all humanity to a higher plane. The spread of intelligence quickened all the dormant energies of mankind, and an era of mental and material progress was entered upon, such as the world had never known. Associations were formed for the promotion of scientific discovery. The value of united effort was felt and recognized in departments of human activity theretofore unknown.

As early as 1272, the Academy of Belles Lettres was established at Florence, followed at Naples by the Academy of Mathematics in 1540, and by that of sciences in 1560. Possibly a few years earlier than the establishment of the Academy of Belles Lettres at Florence, was the founding of the Sarbonne at Paris, followed by the schools of painting in 1391, of music in 1543, and of the fine arts in 1648. The impulse given to the cultivation of art, literature and science, by these and kindred associations, was immense. The works of the greatest geniuses of the day were brought together, their merits acknowledged and their faults noted; canons of criticism were established and perfected; the friction of mind upon mind quickened invention, encouraged discovery and perfected art; publicity and reputation were for the most part no longer delayed, and fame, if not wealth, was the reward of industry and talent. The noble, the wealthy and the high-born vied with each other in the patronage of genius and the encouragement of art.

But not till the founding of the Royal Society in 1660, and the Academies of Inscriptions and Sciences by Colbert, a few years later, did co-operative activity make manifest what grand results it could accomplish. Boyle and Brouncker, Wallis and Ashmole, Sir Christopher Wren and Dr. Oldenberg have made their names forever famous by their efforts to realize the conception of a learned society sketched by the author of the "New Atlantis." To this society Newton gave, in 1686, the first book of his immortal "Principa." In 1699, a model of Savery's condensing steam engine was presented. In 1761, the Royal Society sent Halley to St. Helena to observe the transit of Venus, perhaps the greatest event in its consequences to astronomy since the discovery of gravitation by Newton. In 1707, the medal of the Royal Society was founded by Copley, given in after years to famous men, as a recognition and reward of scientific discovery. Gray, the father of electric science, was the first to whom the gold medal was given. Since then, it has been awarded, among other illustrious names, to Franklin, Bradley, Rumford, Hunter, Faraday, Herschel and Davy.

The Royal Society, in its aims and results, may be taken as the type of voluntary association for the promotion of scientific discovery.

The Institute of France, embracing the five famous sections, each consisting of 40 members, has achieved no less renown.—Many of the greatest discoveries made by the greatest of Frenchmen owe their origin and their promulgation to the stimulus and aid given by this illustrious body; and, to-day, no distinction is more coveted than membership in the "Institute de France."

Encouraged by the example of the Royal Society, associations were formed, not only in the metropolis, but throughout all the large and many of the second rate cities of Great Britain, for the cultivation and advancement of special departments of science. Of these, time allows me to mention only a few. Whole pages, nay, pamphlets might be filled with their mere names. Take for example, the Linnæan Society, for the cultivation of natural science in general; the Geological Society, Geographical Society, Chemical Society, Archæological Society, Anthropological Society, Society of Antiquaries, Ray Society, and the Statistical Society. Under the auspices of these and

kindred bodies, and through their aid and encouragement, the boundaries of knowledge have been pushed forward, and depths have been touched and heights reached, of which our fathers never dreamed. The British Association for the advancement of Science makes annual appropriations to facilitate discovery and test results in almost every branch of physical science.—Similar associations have sprung up in the United States, and are doing excellent service. In all the great cities of the Union, historical, philosophical, scientific and fine art associations bring together their respective votaries, and by concentration of forces and division of labor secure results impossible under individual effort.

Another phase of co-operative effort, peculiar to modern times, is found in trades and trades unions. These, when perverted, as they often have been, are productive of disastrous consequences to labor and to capital; but when confined to a legitimate activity, are productive of great and permanent good. Almost every activity, in which human brain and human muscle manifest themselves in material production, have associations formed for mutual benefit and mutual protection. Sometimes their operations are confined to sick benefits, aiding members in distress, caring for their families when deprived of their natural protectors, providing employment for the young, and placing them beyond the reach of poverty, furnishing them with an education and employment, helping them, in short, to help themselves, by fitting them to become honest, capable and industrious members of society.

Sometimes, by adding capital to labor, they become corporate bodies for production; reaping, thereby, not only the fruits of individual labor, but sharing in the production as well. In England, this kind of co-operative activity has sometimes taken a wide range. Under the auspices, and through the capital of such an association, stores are carried on, supplying all that families require; flouring mills are in operation to furnish breadstuffs; cotton and woolen mills have been set agoing, on a scale second only to those of Manchester and Bradford. In these enterprises there was employed last year, under the control of a single association, capital equal to $2,300,000. And why should not such enterprises be extended? There is an abundance of capital from the savings of the working classes, if properly employed, to extend such operations as these, and to yield large results in annual dividends.—One-half the amount deposited by the working classes in the savings banks of Great Britain, if employed in joint-stock enterprises, in manufactures, and in commerce, would add immensely to the yearly earnings of the working classes and largely to the national wealth. Of the $350,000,000 on deposit in the savings banks, $175,000,000 might be thus employed, yielding to the depositors annual average profits, amounting to over $17,000,000.

What has been done in Great Britain might be done in the United States. Our population is larger, our artizans better paid, and the aggregate amount of savings thus employed could in a short time fairly double the amount given above. There is little doubt that this phase of co-operation will continue to attract more and more attention in this country and in Europe, and that in the future it will form no unimportant factor in the adjustment of the claims of capital and labor.

Still another phase of co-operation, and bearing more directly upon the object for which we are now convened, is found in associations whose immediate object is not production, but the best means to facilitate production. Such associations exist all over our own country, and in many foreign countries. Notable among these are agricultural, horticultural, pomological, wool-growing, cattle-breeding, and bee-keeping associations. Here the end sought is to determine the principles which render successful production possible, leaving their applications to individual agency.—Here the end is, by observation and experiment, to generalize such a body of knowledge as shall enable those who devote themselves to these pursuits to realize the greatest possible expenditure of labor and capital. If hundreds of intelligent workers be engaged in the same pursuit, each collects facts and places himself, with special relation to the objects with which his activity is conversant, to the body of facts collected by each, and in the relation sustained to the end in view, there will be two elements, a general and a special; the general being common to all observers, and the special peculiar to the one. The special will sometimes be the result of fortunate or unfortunate accident, sometimes of the idiosyncracy of the individual. Through the former, the more obtrusive elements which enter into the body of knowledge will be rapidly generalized; through the latter, the less obtrusive—but not, on that account, the least important elements.—Moreover, these latter will continually tend to multiply, as the powers of observation are cultivated and strengthened. By the co-operation of the two, all the elements will be gathered, conjecture will rise to hypothesis, hypothesis to theory, and theory in the end will rise to the dignity of science, resting on a broad basis of observed facts and tested by experiment. Now, this is what workers, associated together for a common purpose, accomplish with the least expenditure of mental and physical force.—The observations, tests, and experiments of hundreds of workers and thinkers are brought together into a common stock, discussed, criticised, questioned, put in every light, in every shade, viewed from this standpoint, then from that, and the inferences which the seemingly established facts warrant, if not conclusive, are provisionally accepted till further light is thrown upon them. Then the whole array of workers, leaving the well enough established to take care of itself, apply themselves energetically to collect further facts, in order to establish or refute that which was only provisionally accepted, to take it from the limbo of uncertainty and the region of the possible, and place it either among accepted truths or relegate it forever to the domain of exploded fiction.

The certainty that by co-operative effort error will, however plausible, be exposed and elminated in the long run, tends to make men less vehement in the defense of views still open to question, and more tolerant of the opinions of others. Though like results would undoubtedly be attained through individual investigation working apart and communicating its results to the public through the ordinary channels, yet by co-operative effort these results are compassed more speedily, and sooner placed upon an enduring basis.

Men cherish their opinions as they do their offspring. Mischevious notions, when once they obtain currency, often work baneful results before their fallacy is exposed. They are earnestly and vehemently defended, and as earnestly and vehemently assailed. When a speedy confirmation or refutation is impossible, they entrench themselves with an ardor, and maintain their defenses with a tenacity, which stimulates corresponding vehemence in the assault. Many of the riots which have afflicted the world are traceable largely to this intemperate conflict of opinion. Wars of words have not unfrequently given place to wars waged with more destructive weapons; and the stake and the battle-field have enforced, for a time, a unanimity of opinion, which, while it lasted, proved the paralysis of intellectual activity. By voluntary association and co-operative effort, evils such as these, similar in kind but less in degree, have either been avoided or reduced to a minimum.

The results of associated effort have already been conspicuous in bee culture.—Within a quarter of a century the net returns from the honey bee have increased more than one hundred fold. The habits of the industrious little worker have been carefully studied, its natural history has been investigated, the laws which govern its reproduction and development have been learned, and the conditions of its remunerative activity have been made known.

All this knowledge would have become the property of the scientist and the producer in time, but the old routine has been set aside, and the slow course of development which satisfied investigators and producers in the time of our fathers, has given place to a united activity by which the area of knowledge has been rapidly widened, and the aggregate of production increased many fold. Thousands of tons of the most delicious food, whose sweetness had been for ages literally wasted upon the desert air, have been added annually to the stock formerly known and available, and thousands more will be added year by year from the same source of supply.

I am persuaded that this industry is still in its infancy, and that in the future, when bee culture shall have been extended, as it undoubtedly will be, not only means of livelihood but avenues to wealth will be opened up to the industrious and the frugal from this source of remunerative activity, the value of which I should hesitate to estimate.

It is, therefore, with pleasure that I see the beginning of a movement in Northern and Central Kentucky to develop an industry which our rich and broad pastures, and our blossom-bearing fruit and ornamental trees are eminently adapted to encourage and render profitable.

H. C. Hersperger, of Jessamine county, delivered the following interesting essay, on

BEE-KEEPING, A SOURCE OF WEALTH:

In the present state of society, when every one is living up to the full extent of his ability, it is wise to make money from all the honest sources within our reach.—That we may learn to make money from the management of bees is our business here to-day. If we can, by intelligence in the application of science to their habits, make them a source of wealth to our people and the nation, we will have done much for the good of society.

We hear of bees from the earliest ages down to the present time. They are spoken of in the Bible, many centuries before the Christirn era, and in the writings of Virgil and Columella; but they seem to have had no management except that which was dark, mysterious and uncertain. No good results are reported of them. The correct understanding of their natural history, and the proper application of art and science to their habits was left for Huber and Dzierzon, and Langstroth and Quinby.

The laws which govern bee instinct were unknown to them. The science and art, so applicable and essential in the successful management of them in the present day, were unthought of in the past, as they are unthought of now by nine-tenths of our people. The light had not yet come out of them. Fifty years ago, the light had not come out of steam and electricity. Now they are the motive powers of the world, bearing telegrams to every part.

Of course, we do not claim for bee-keeping a place among these wonderful agencies, but we do claim for it a place among the industries of our people, capable, by intelligent management, of giving as good results for the outlay as are obtained by any work done upon the farm.

It appropriately belongs to farming.—Farmers have the soil and the flowers, and where forage is wanting, they can supply it by sowing and planting. And it is to them I especially direct my thoughts to-day. The flowers upon your fields, meadows and waysides contain in their tiny cells a sreasure—a delicious sweet, secreted day by day, and unless some arrangements are made to gather it in, will be daily wasted upon the air. It is this saving, this gathering from every available sourse that brings thrift and success to the farmer.—Shall we let this treasure of the flowers be wasted in our fields or shall we gather it in, is a question worth consideration.

He is a poor economist indeed, who suffers available treasure to go to waste around him. What would you think of the farmer who would not gather the golden grain when it was ripe and waving in the fields? Or, what would you think of the man who would harvest the new crop and let the old crop go to waste? The man of thrift gathers and saves from every possi-

ble source. He lets nothing go to waste.—He gathers in his corn and his wheat, his rye and his barley, and he gathers also the honey from the flowers of his fields. It is his. He pays nothing for it. Genial nature plants the flowers and fills their cups with honey, and he gets it simply for the taking of it, and thus saves what would otherwise be lost.

Now, are we at liberty to neglect the development of an industry that can, by proper management, be made to bear fruit an hundred fold, and thus add to the happiness of our people and the wealth of our State?

We are told by Prof. Shaler and others that we have untold mineral wealth in our mountains. But the great question of the day is, how to reach it. Legislatures have met and adjourned; conventions have done the same; the wise heads of the State have talked the matter up, but still the work remains undone. There is no highway opened up to these mines of wealth.

My own country has expended 20,000 dollars in the matter, without one cent of return. And, I fear, before these vast riches are brought to our doors, we will all have gone to our long resting places.

But it is not so with the flowers. We want no highway to reach them. They are all around out doors. They are in our fields, and the honey is in them, and each one of us is responsible for himself, if he does not prepare the little, winged harvesters to gather it in.

As I said before, it belongs to farming, and pays as well as any work done upon he farm. The returns for the investment and labor are as good as the returns from any of the products of the farm. Am I aying too much? Have I made an asserion which I cannot sustain? My aim is not to be extravagant, or say one word in this matter which is not strictly in accordance with my knowledge and belief. My experience as a bee-keeper is the very best evidence I can offer. I have taken 4 crops in succession, and they have paid me more than 100 per cent. on the investment. They have averaged me, for the 4 years, more than $12 to the colony. For the last 2 years I have kept 30 colonies, and they have given me $12 to the colony. What better can you do with wheat, corn or hemp?

Many of our people at this time are turning their attention to sheep husbandry, and they think it pays well. But, take 30 sheep, a fair average for an ordinary farm, and make your calculations and see if they will yield $12 profit per head. They will require more care than your bees, the year round.—They will cut down your grass, and they will not yield you $12 per head, notwithstanding you have a protective tariff for your wool and I have none for my honey.—Thus it appears that bee-keeping is fully equal to, if not better, than sheep raising.

Again, for the last 2 years I have taken from 30 colonies 2,000 lbs. of honey each year. Now, if I can raise 2,000 lbs, can not my brother farmers do half as well and raise 1,000 lbs? Doolittle, of New York, took last year over 500 lbs. from 1 colony.—But suppose every farmer in Jessamine county would make 1,000 lbs. instead of 2,000 lbs. as I have done; and as we have just about 600 farms, of 200 acres each, it would make the round sum of 600,000 lbs. of honey for Jessamine county.

I consider this not beyond the capacity of our county when the seasons are at all favorable, but I doubt whether our farmers will make 1,000 lbs; therefore, I will divide it again, and make it 500 lbs, ¼ the amount I have taken, and about what Doolittle took from 1 colony only, and then we have for our county just 300,000 lbs., surely within the reach of her people. And this, at 25 cts. per lb., is $75,000 for Jessamine county; and, as our State has about 120 counties, I will multiply that sum by 100, and we have for the State of Kentucky $7-500,000 annually going to waste in her flora. And as a source of wealth to the nation, let us multiply this amount by 30, leaving off 8 of the States, and we have $225,000,000 of wealth lying in the tiny cells of her flora.—Thus intelligent bee-keeping seems destined to become a source of untold wealth to our nation.

In this calculation I believe I am far under the true estimate. In a few years, you will learn from the census of the States and the nation, through experienced bee men, that the resources from this direction alone will be estimated at from $500,000,000 to $1,000,000,000.

But, of course, we do not all expect to make fortunes in this business. I do not discuss it for that purpose. The price of honey may change. The law of supply and demand governs the market price in all commodities. If we overstock the market with honey, as with any other product, the price will fall. Suppose it does. Who cares for that? We still have a home demand in our families, which, if supplied, will be a blessing to us right here. This is the special view I wish you to take of it.—How many of our farmers are absolutely, sorely taxed for the sweets that go upon their tables? How many are in debt, and how many are barely able to come out even at the end of the year? To these I would say, keep a few colonies of bees, manage them intelligently, and supply your own families with this best of sweets, free of expense. H. C. HERSPERGER.

On motion, the President appointed the following committee on apicultural supplies and implements: H. C. Hersperger, Thos. T. Hayes and O. N. Featherstone.—After due deliberation, the committee brought in the following report:

"We, your committee on apicultural supplies, recommend the Langstroth hive above all other hives, for convenience of raising box or extracted honey; we also recommend the Bingham smoker as the most effective smoker. We approve of the half gallon glass jar with glass top, as the very best jar for comb and extracted honey. We also approve of the 1 and 2 lb. jars of C. F. Muth, of Cincinnati, for extracted honey. The extractors of Novice and Muth were both recommended so highly that the committee were unable to decide between them."

Mr. C. H. Dean, who had on exhibition a Simplicity hive, gave his views and preferences for the same, and said, that in following out the suggestions of A. I. Root, of Medina, Ohio, the inventor, he had made a half chaff hive, and approved of it, not only as a winter, but a summer hive. Mr. Hers-

perger said he could attest all Mr. Dean said about the Simplicity hive as in the cold northern climates. They had experienced great difficulty in bringing bees through the winter; but since they have used the chaff hive it seems to have given general satisfaction. In regard to wintering bees, Mr. Robt. Featherstone said the best and most successful bee-keeper he ever knew was a German, who simply left his bees on their summer stands, and filled the upper story of his hives with corn-cobs, which would naturally absorb all dampness that ascends from the bees, and acts as a ventilator and protection for winter at the same time.

Mr. Williamson explained how he wintered his bees safely by simply making a rough box out of common plank or old dry goods boxes, large enough to encase the regular Langstroth hive. Leave a space of from 3 to 6 inches all around, have the top lid loose, to slide, as on a two-story hive, make a small funnel, say ½x4 of thin plank, close up all the entrance in hive, except just the sizes of the mouth of the funnel, let the funnel extend even with the outside of the rough box, and it is complete.

They wintered all their colonies safely. The boxes will last for many years, and the hives might be left in them all summer with equally good results, particularly where there is no shade; he agreed with Mr. Featherstone in regard to filling the upper story with corn-cobs or straw, or a thick chaff mat, instead of the honey board; of course, in this climate, the same protection is not necessary as it is in northern climates. The main points of wintering in this climate is to break the wind and give ventilation without draught..

Thos. L. Bryan asked if an air space for wintering would not answer as well as chaff. The President said it would, as he had proven by many practical results; for instance, he said, a dwelling house built with a double wall, and an air-space of only two inches, was always the driest and warmest house in winter, and the coolest house in summer.

Mr. Williamson gave the following address on

HONEY, AND MARKETING IT.

The subject of honey and marketing it, is one which conerns nearly every bee-keeper, and very properly too, because in these, aside from pleasure, rests the just reward of study and labor; for it is fallacy to think, without study and labor in bee-keeping, as in all other pursuits, great results can be accomplished. In marketing honey, it should never be forgotton that a good article in an attractive form will always command the highest price, the best reputation and a steady demand.

We see this illustrated every day. The confectioner assorts and classifies his candies and fruits; in fact, arranges everything in his store in the most tempting style, to captivate human taste and appetite. The druggist adorns his packages of powder with lithographs of beautiful women, his toilet soaps are put up in delicately perfumed boxes; and thus it is in every branch of human industry—the great aim of the "knowing ones" is to make things look attractive.

At the present time, in large cities particularly, there is more demand for comb honey, in small frames and boxes, than for extracted. This result is due, in a great msasure, to the frauds that were practiced in former years, by manufacturers of what was called "strained" honey.

Extracted honey is the purest honey possible, and physicians have often denounced the idea of eating honey and comb also; and when the useless and injurious effects of eating comb honey is generally understood, we shall shrink from eating it as we would from eating glass.

Extracted honey may be eaten at all times with perfect impunity. Our Jewish friends use honey in many of their religious rites, particularly in the Feart of the Passover, and so strict are they in regard to its purity that the price to be paid is no object. The rabbis instruct them to buy candied honey as a precautionary measure against impurity.

And when we consider that pure honey is the *very* essence of flowers and plants, in which, we are told, there is a remedy for every disease, surely we can not doubt the happy combination of honey as medicine. The Scriptures tells us in many passages of the wonderful efficacy of honey as food and medicine. And I believe as the treatment of disease becomes more and more rational, so will the value of honey as a medicine become more and more apparent. Honey has generally been looked upon as a luxury. The price has been considered high; the consequence is that fashionable golden syrups have been filling the place that honey ought to occupy, and which honey is now fast superseding as the injurious effects of these syrups become more generally known. We have often wondered what discolored our teeth after eating certain syrups and drinking tea. Can we doubt but that it was the chemical action of the acids used in the manufacture of these syrups? How often it has been proven by analysis that these syrups are adulterated with injurious chemicals, in order to give them that bright golden color so inviting to look at—while pure, extracted honey is as free from all impurity as the dew drops of morning; and I believe the time is not far distant when the use of honey in every home will become as common as "household words." WM. WILLIAMSON.

The Secretary read a communication from the Executive Committee of the National Bee-keepers' Association, which was received and filed, also a communication from W. J. Davie, M. A., State Commissioner of Agriculture and Statistics, after which was read Mr. Davie's interesting article on Bee Culture, "from his first annual report of 1877."

Mr. Ollie Redd asked if it was proper to try to prevent bees from swarming.

Mr. Hersperger said it certainly was, and the aim of every bee-keeper should be to have his bees make honey, and not bees.—He said all colonies should be kept strong; and to prevent swarming, take out all the queen cells, put the bees into a new hive, place it where the old one was, and

the change will cause them to imagine they have swarmed, and they go right to work. The difference between putting them back into an old hive and removing the whole colony into a new one is, that in the old hive they have taken the swarming fever, and will swarm again in 10 days or 2 weeks. He would not offer this as an infallible rule, but from one colony of his own, managed in this manner, he had taken 230 lbs. of honey. Mr. H. said he did not approve of clipping the queen's wings, to prevent swarming, as he had lost quite a number of fine queens by doing so. He believes the bees regard her as becoming old and defective, and go to work and raise another.

T. L. Bryan asked what constitutes honey-dew.

The President's explanation of the substance generally known as "honey-dew" was, that the trees and plants are besieged with innumerable little insects, who puncture the leaves, which causes the fluid to flow, on the same principle as a splinter puncturing the human system and causing blood to flow.

The Secretary then read the statistics, sent by General LeDuc, U. S. Commissioner of Agriculture, which showed that in 1870, when the last census was taken, that Kentucky stood third in the list of honey-producing States. The returns for that year being 1,171,500 lbs. of honey, and 32,-557 lbs. of beeswax; and for the United States, last year, the crop of honey, at a low estimate, is put down at 35,000,000 lbs.

The Secretary read several communications from the Hon. T. J. Bush, in reference to the new law, passed by the last General Assembly, as follows:

Chapter 1026. An act to protect the bee-keepers of Kentucky. Approved April 10, 1878.

Said act reads as follows:

§ 1. *Be it enacted by the General Assembly of the Commonwealth of Kentucky*, That any person or persons, who shall sell or cause to be sold any manufactured honey, unless such honey is so represented and designated as manufactured honey, shall, for the first offence, be fined in any sum not less than $10 nor more than $100; and for each repeated offence shall be fined not less than $50, nor more than $250.

§ 2. That any person or persons, who shall sell or cause to be sold any manufactured honey which contains any substance injurious to health, shall, for the first offence, be fined in any sum not less than $10, nor more than $100; and for each repeated offence, shall be fined not less than $50, nor more than $250; and such adulterated articles, by order of the court, shall be destroyed.

§ 3. This act shall take effect from its passage.

On motion, a unanimous vote of thanks was tendered General LeDuc, U. S. Commissioner of Agriculture, Washington, D. C.; W. J. Davie, A. M. State Commissioner of Agriculture, Frankfort, Ky., and the Hon. T. J. Bush, for the valuable information furnished and kind offices performed. On motion, the next place of meeting will be this city, on the first Tuesday in October next, at 10 a. m.

W. WILLIAMSON, *Sec'y.*

☞ Bees that go out of their hives in the morning in search of food or honey, from floating apiaries, find their home by comparative location, and their particular hive by form and color.

Correspondence.

For the American Bee Journal.

The Langstroth Hive.

EDITORS JOURNAL:—Will some of your many intelligent readers, who have had long and extensive practical experience in bee-keeping, as a specality, do me, and, no doubt, many others of your subscribers, the favor to state, through the columns of the JOURNAL, what, in their opinion, are the advantages of using what is called the "Standard Langstroth" frame that is 9⅞x-17⅝, in preference to a frame of the same kind, but smaller dimensions, say 10x12?—I notice that in the last 2 or 3 years there has been a general tendency, especially in the Western States, to adopt the standard Langstrrth frame. Many bee-keepers incuring the great expense of transferring large apiaries. I can readily understand the convenience and benefits (to dealers in apiarian supplies, especially), of having every bee-keeper use the same frame; but taking into consideration all the advantages and disadvantages of the two frames mentioned, I cannot possibly comprehend why the "Standard Langstroth" should be preferred as the frame for all to adopt.

"Being shallow, bees will winter better, and go up into the sections sooner."—"Fewer frames are required; consequently, a larger number of colonies can be manipulated in the same length of time." These are about all the advantages I have ever heard claimed for the "Standard Langstroth." I have had no experience in wintering, as we have no winter here; but it is evident that the difference in depth of the 2 frames is so small (only ⅞) that the difference in results, if any, either in wintering, or producing comb honey, must be imperceptible.

The stooping position, necessarily taken by the bee-keeper in manipulating combs, is very fatiguing; and, as the combs must frequently be held for several seconds, and often minutes, as high as the head, in order to examine them for queen, eggs, &c., a very little too much weight tells fearfully on his back and arms in the course of a day's steady work. A 10x12 comb, completely filled and capped, weighs from 6 to 8 lbs., and a 9⅛x17⅝ from 8 to 11 lbs., and the broken down bee-keepers, all over the country, is sufficient evidence that the latter is entirely too heavy for any body that has a large number of colonies to handle. We especially pity the ladies who undertake such an enormous task. The murderous sewing machine, or the detestable wash-tub would prove an easier place; 10x12 frames are much less liable to warp and hang crooked than 9⅛x17⅝. Bees are more apt to build straight combs in the former than in the latter. Here the dealer in apiarian supplies will say, "*that is a dead issue*, use comb foundation and secure straight combs." But, comb foundation will warp and sag more in a wide frame than in a nrrrow one; and then again, new and partly finished combs are much more

liable to be cracked or broken out entirely, in wide than narrow frames, in handling, and especially in extracting.

I have made bee-keeping a speciality and constant study for several years. Have upwards of 300 colonies, and secure an average of more than 100 lbs. extracted honey per colony, each year, but have not yet been able to discover any advantage to induce me to adopt the "Standard Langstroth" frame. Still, I am always willing and ever eager to learn, and perhaps some of our fellow bee-keepers may very readily show important points that I have overlooked. WILLIAM H. WARE.

Bayou Goula, La., May 20, 1878.

[Lest anything we might say on this subject might be construed to be said from some interest in selling hives, we invite some one to answer friend Ware, who is in no way interested in any hive. The superiority of the Langstroth hive may be easily demonstrated to any unprejudiced person, but we prefer to let others speak on the subject.—ED.]

From the Los Angeles Star.

Preparing barrels for shipping Honey.

Let the barrels stand in the sun 4 or 5 hours, with the bunghole open, then go carefully over every hoop and drive it tight, for they can almost always be driven a little, if the barrels are new; then, if you wish to paint them, do that next, with some light colored paint, so as to reflect the heat of the sun, instead of absorbing it, as any dark color will do. Then take 10 or 15 lbs. of clean beeswax, put in an iron pot without any water, and heat it until it boils, taking care not to let it boil over and catch fire, which it would do very readily; when hot, pour it into the barrels with a large funnel; as quick as possible, put in the bung and roll and tumble it every way as fast as possible for one minute; then take out the bung and pour out the wax into the pot again, and, if quickly done, there will be only about one pound remain in the barrel. The hottest part of the day is the best time to wax barrels, and also the best time to fill them with honey; and it is very important to not fill too full, as honey expands and contracts a great deal with heat and cold.

If a barrel is filled in the morning when the honey is cold, to within 1½ inches of the head, and then set in the sun, by 12 or 1 o'clock it will run over; or if bunged up, it would strain the barrel and leak afterwards, so it is not safe to fill closer than 2 or 2½ inches of the head; and if the barrel is filled on the side, not less than 3 or 3½ inches. When filled, take a wet cloth or sponge and wipe off any honey that may be on the edge of the bunghole; then take a piece of thin cotton cloth and dip it into hot wax, both sides, put it over the end of the bung, and drive it tight, cut off what cloth remains outside close with a knife, dress off the bung smooth, and take a hot soldering iron and go over and all round the bung with wax, as if it were solder, and soak it in wherever it will go, then nail a piece of tin over it and you need not fear your barrel leaking honey.

E. W. SINCLAIR.

For the American Bee Journal.

Chips from Sweet Home.

As bee-keepers, as well as others, are sometimes troubled with felons, and such pets are not pleasant, I will give you a cure which I have never known to fail:

Take plug tobacco, pick in pieces and boil in soft soap; make a poultice of the leaves and bind on the felon. You will find that it will quit paining immediately, and will continue easy till the poultice is dry.—When dry, and it commences to pain, put on another poultice which you have boiled in soft soap. Continue this until it quits paining when the poultice is dry. This will occupy from 6 to 10 hours. I have never known this to fail, although 4 or 5 days gone. Try it.

To hold Prize Boxes together on the double portico, Langstroth hive, nail 2 pieces, ⅞x⅝x26 in. on top of 3 pieces ¾x⅞-x15¾. One of the 3 pieces should be nailed in the center, against which the 2 inside boxes, of 7 sections each, is snugly placed; and the other 2 boxes is snugly placed against the 2 end ones. The separators are 5x12½. These not only keep combs straight but hold boxes firm and prevent them, when wedged together, from slipping by each other. At each end is placed a glass.

STATISTICS ON HONEY AND WAX.

The executive Committee of the National Bee-keepers' Convention has appointed one person in each State to gather information as to the amount of honey and wax produced in 1877, also the number of hives, &c. As I have been appointed, I would ask the assistance of each bee-keeper in Illinois, that we may make the best report of any State. At our last convention, we were surprised to find the amount of honey and hives kept by 70 persons. The Secretary will give the report soon. I wish each bee-keeper in Illinois would send me a postal card, giving me the names of the bee-keepers in his neighborhood, with number of colonies each had in the spring, and the amount of honey and wax produced in 1877. Those of you who read this, do so at once; *don't forget it*, and be sure to give as near the exact number of colonies and amount of honey and wax produced in 1877 as convenient. Also give names of bee-keepers, hives, honey and wax of your neighbors, whom you think will not see this. Be brief, as follows: D. D. Palmer, 150 colonies, 15,000 lbs. honey, 24 lbs. wax. By this means, I will collect the whole, if possible, and make a synopsis and send to the National Convention. Address, D. D. Palmer, Eliza, Mercer Co., Ill.

R. C. OTIS.

When a prominent apiarist falls from the ranks, we, as small bee-keepers, like to know something of their whereabouts. R. C. Otis, of Langstroth bee-hive law-suit

fame, through over taxation of the brain, became an imbecile of Mount Pleasant, Iowa, Insane Asylum; where, I am told, by Mr. Thomas, of that institution, that he died after suffering from softening of the brain. Mr. Thomas says he paid but little or no attention to anything. Will Mr. Thomas give, in the AMERICAN BEE JOURNAL, the particulars of his last days?

OLD QUEEN GOING WITH SWARM.

Among bees, like all other animated nature, there are exceptions to all general rules, e. g. The old queen goes with the swarm. I never knew but *one* exception to this. In the summer of 1877, a colony swarmed twice; both times taking a young virgin queen and leaving the old, laying queen in the hive.

June 3rd, and no surplus boxes yet. May has been cold and wet. We are building a honey house, for storage of 30,000 lbs. of honey. We believe in setting our mark high.

CYPRIAN BEES.

MR. EDITOR.—I, like many others, wonder when I see Cyprian bees advertised in the AMERICAN BEE JOURNAL for the low price of $5; and they are pure, for the advertisement says "No impure bees in my locality;" also imported Italian queens, $3.75. At these figures, we want some of those queens, if we can be assured by parties who have bought of him that they are pure, but out of the many, I cannot get one to answer favorably; in fact, they are silent.

As you were lucky enough at our Bee-keepers' Convention to draw a queen of Hardin Haines, please send me a setting of eggs.

PRIZE BOX HOLDER.

The one I have invented for my double-portico Langstroth hive is made as follows: Take 3 strips ¾x⅞ of an inch, and as long as the honey board is wide, *on* these put a strip at each end ⅝x⅞ of an inch edgewise. This will hold 4 rows of 7 sections each.

"OUR HOMES" DEPARTMENT.

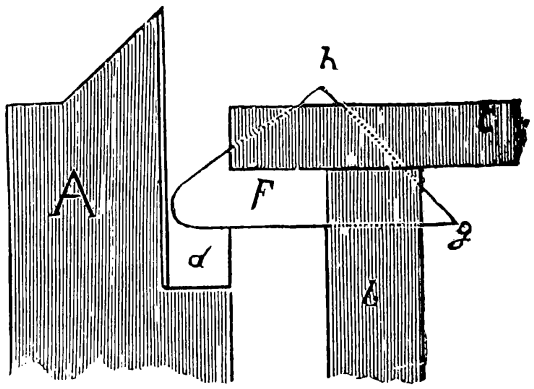
A. I. Root, in the June number, under "Our Homes," gives one very mild letter from Mass., in which John D. White asks, "Would it not be better to leave the religious department out of *Gleanings?*" &c. A. I Root says in his religious comments on this, moved by the Spirit, of course: "I have had, perhaps, a half dozen similar letters in the past 3 years."—Now, Novice repent, and have your God to straighten you up, for in this neighborhood I *know* of (no "perhaps") a half dozen "similar letters," only much more so, being sent to you, and if your 3,515 subscribers would average as many "similar letters," to you, as a few do here, your "perhaps a half dozen" would number over 1,000. I am a liberal minded bee-keeper. I do not want MYSTERY written on my hives. We would like *Gleanings* if not spoiled with so much baby talk in "Our Homes."

I had a talk with a neighbor bee-keeper, one of the best informed on bees we have; he is also a writer of Scraps for the AMERICAN BEE JOURNAL, as well as *Gleanings*. He says he has written Novice a "half dozen similar letters" himself. We have plead and reasoned with him to do to others as he would have others do to him. Would he wish Catholics, Jews, Turks, infidels, heathen, &c., to take an underhanded way of forcing their ideas upon him? I have taught school for 5 years, and what would I think of a pupil doing wrong every day; yes, perhaps every hour, but as constantly asking my forgiveness and making new promises that he would do better, but as often breaking them, with the idea that he could make another promise as good?—Such a pupil is Novice, but what does his teacher think of him? D. D. PALMER.

For the American Bee Journal.

Kretchmer's Metal Frame-Bearings.

In the illustration accompanying this article, *A* represents the end of the hive; *d*, a metal rabbet of folded tin; *b*, the end piece of a frame; and *c*, the top; whilst the tri-angular piece, *F*, is a piece of galvanized sheet iron, resting edgewise across the metal rabbet, and supports the frame. In making the frame, the point *g* is, by the use of a guage block, driven centrally through the end piece of the frame, and the point *g*



clenched; the top is next driven over the point *h*, and the point clenched, so that the piece *F* has a position in the centre of the width of the frame; the dotted lines indicate where it passes through the wood.—Although the clenching alone gives it the strength of an ordinarily nailed frame, the frame is, in addition, nailed in the usual way.

Before enumerating some of the advantages of this bearing, I desire to state that this is not a new, untried idea. I have had over 5,000 combs built in such frames, and have used them over 8 years, testing their merits by the side of nearly every device known for the purpose, and hence claim to know whereof I speak.

Some of the advantages are:

The frames are never glued to the rabbets, as the point of support is less than the head of a pin, the bees passing under, over and between, at pleasure.

In the metal rabbets are cut, with a single file stroke, small V shaped notches, at such distance apart as it may be desirable to have the distance of the several frames from centre to centre; in these small

notches the bearings, *F*, rests ; the frame is simply set on the rabbet, and by a slight movement of the finger, they glide into their proper places and stop ; and not only aiding the beginner to set his frames at proper distance, but also greatly aiding the expert in the manipulation of the frames.

In carrying a hive, the frames cannot slide together, and if, perchance, the hive should not be level, the frames will always assume a perfect perpendicular position, and retain their position on the rabbets, even should the hive be tipped 30°. The assertion that the filling with honey, of one side of the comb, would cause the same to swing out of perpendicular, is not sustained in practice, as the distance from the centre (the point of support,) to the outside is too small, compared with the depth of the comb or frame, to make it perceptible in practical operation.

The notches in the rabbets do not make the frame *fixed* at always the same place, the notches being so small permits the frame to be set at any place on the rabbets, should an extra thick comb make such change necessary.

The pieces, *F*, greatly strengthens the frame, acting as a corner brace, and when the points are properly clenched, the frame may be used without any additional nailing; but when nailed, they have strength to support 30 lbs., without giving way.

Nails, staples, or wire driven into the end of the frames add nothing to their strength ; and frames thus arranged are more or less glued down, as they present a larger surface, and if set in notches, requires the notches to be considerable deeper to make them effective.

The liability to crush bees on the rabbets is, in this frame, reduced to its minimum, there being but *one* very small point to be guarded.

The cost of bearings, *F*, is less than any other attachment, as they can be furnished ready cut, strengthened, trimmed, pointed and packed for about 15c. per hundred ; and added to a frame as easy as to drive a nail.

From the present demand for these bearings, I am inclined to believe that others fully appreciate them as soon as they learn of their use ; hence, furnish the foregoing description. E. KRETCHMER.

Coburg, Iowa.

[We have a small model of these pivot frames, sent by friend Kretchmer, for our Museum. They are simple, strong and cheap, and for those who desire metal-bearings, that the bees cannot fasten with propolis, are quite desirable.—ED.]

For the American Bee Journal.

Comb Foundation, Marketing, &c.

The season of 1877 was very good in this vicinity for early honey, but the drouth of last August cut off nearly all the late harvest. I extracted 3,556 lbs. from the upper story, only, of 26 colonies ; 41 colonies produced 1,064 lbs. of choice comb honey, in sections and glass boxes. I sent 12 lbs. of yellow wax to J. H. Nellis for comb guide, and received a nice article in return. I would not advise ordinary bee-keepers to make their own comb guide, when it can be bought for much less than when it is manufactured on a small scale.—I used to think that artificial comb guide would injure the market for comb honey, but now I do not believe it will, if properly used. I sold nearly all my honey in the home market, and could have sold, at least, 2 barrels more. I am in favor of selling more honey to wholesalers, that it may become a staple article in all markets.—However, if wholesalers cannot find a demand for the vast amount of honey now produced, and it remains dull, on the hands of the retail dealers, then we must sell more at home.

Mr. Editor, I fear there is too much *hive* honey disposed of for the welfare of our market. If bee-keepers will try and produce a better article, they will find the demand stronger. Thus, when conditions are as they should be, let the brood chamber alone, and obtain surplus honey from proper surplus arrangements above. It is a mistaken idea that dealers will invest in anything that can be taken from a cluster of bees. Something *more* than a *mere* semblance of honey is required. Hence, it is very important to obtain honey in a higher degree of perfection than a large portion of it generally is.

Extracting surplus honey from the brood chamber should be discouraged, for two reasons :

1. Because it is an injury to the colony.
2. Such honey is seldom a No. 1 article.

Obtaining comb honey from the brood chamber is rather to be discouraged, as slow comb building and fillng early in the season gives the general appearance a yellow color. It being in close proximity to the young bees, and where so much pollin is constantly stored and consumed makes this mode objectionable.

Two or more kinds of honey should *never* be put in the same cask, where each original flavor cannot be retained. All recepticles, even new, should be well rinsed with pure cold water, and well dried before using ; and either extracted or comb honey should be stored in cool, airy rooms, free from impure air.

I think colonies are generally allowed to increase too much, for profit. More honey might be obtained, with less expense and anxiety on the bee-keeper's mind, during the critical part of the season.

It is a splendid country around here for honey, but the winters are too cold and changeable for successful wintering out of doors.

White clover is plenty, and the basswood abounds almost everywhere, but the heavy rains have retarded the honey harvest materially. Strong colonies had their boxes full of bees, and up to June 5th had some honey capped. EDWIN PIKE.

Boscobel, Wis., June 15, 1878.

Portland, Oregon, May 1878.

"Thanks for your Honey pamphlet. I consider it one of the best things out."

T. BRASEL.

For the American Bee Journal.

Things in General.

DEAR EDITOR: You will recollect my being at your office this spring, as you was about to depart for the Burlington Convention. I must say I was well paid for my visit to the AMERICAN BEE JOURNAL office. It is worthy of a visit from any one interested in the science of bee culture. We need just such an establishment; and it is for the interest and well-being of apiarists to support and maintain such. We hope that friends Newman will not cease in their efforts to advance the science of apiculture. There is much to be done yet, and one item of special interest is marketing. We must establish a home market; create a demand at home, let our neighbors know what good honey is; and not let our home market be monopolized by old fogies who deal in a conglomeration of wax, pollen and honey. All progressive bee-keepers should take the AMERICAN BEE JOURNAL, read it and grow wise; they will never regret it.

After leaving your office I went to my old home in New York State; I then departed for Michigan in search of better pasture and locality for keeping bees, and am well pleased with this section of the State, for it abounds in white clover and raspberries. And I am informed that bees obtain honey very plentifully in the autumn, but from what source I am unable at present to say.

As an illustration, I will give you the product of friend Bidwell's apairy for 1877. Beginning with 17 colonies, he increased to 34, and obtained a surplus of over 2,000 lbs. of comb honey. Mr. Bidwell came to Michigan some four years since from New York state, and started with one colony of bees, buying another one also the second year. He uses the vertical-bar hive, and strange to say is not in favor of the movable comb. Mr. B. uses sections of 2 lbs. each, made of two pieces of ¼ inch pine, about 6 inches wide, 12 inches or more in length, divided into sections with strips ⅞ inches wide of same stuff, a groove being sawed every two inches in the 6 by 12 inch pieces. These are easily split off as required, forming neat sections of about two pounds each.

G. A. WALRATH.

West Bay City, Mich., June 11, 1878.

For the American Bee Journal.

Sad History Repeated.

FRIEND NEWMAN: Perhaps you remember my writing to you last fall, telling you the past season had been the poorest I ever saw, and expressing my fears about wintering, &c. You wrote me you hoped my fears would not be realized; but they were, and fourfold, too. Out of 104 colonies, I now have but 26, and some of them very weak. One hive that swarmed 4 times last summer is among the strongest, and it has been my experience that hives that swarmed 4 to 5 times often come out among the strongest the following spring. You see that I am not a believer in the theory that bees swarm themselves to death. They sometimes lose their queens on their fertilizing tour, and it as often happens with those that swarm but once or twice as otherwise.

I started in the spring of 1877 with 78 colonies, and most of them very strong. They commenced in the boxes earlier than usual, but the drouth in May caused white clover to be scarce, and when in June it commenced to rain, it invariably cleared off cold; and this was kept up till after basswood bloomed. In fact, the bees were killing their drones when it was in full bloom, and soon after the weather came off dry and very hot. Golden-rod came into bloom the last of August, and on the 30th a hive on the scales gained 1 pound. On the 31st, it commenced to rain and was cold, and they did nothing for 12 days, then they gained about 7 pounds in 6 days; then it came on cold again, and that was the last. I suppose about $200 laid out in sugar for them at that time would have kept about 100 colonies active; but the $200 to spare was what was the matter. Some have lost all, and some but about half. One man told me he started in with 21 last fall, and came out this spring with 3 only; while some men within 10 miles of us wintered with small loss.

I have concluded that having the eggs all in one nest don't pay, especially in a bee-hive in this locality, consequently, have sold my house and lot for $2,000 (and my neighbors all say at a sacrifice of $500), and intend to lay out the money in a small farm, and keep sheep or some other stock, as I am not able to do much work, and may keep a few of the pets, if where I settle should prove to be a good locality.

Can any of our friends inform me about East Maryland. I see farms are advertised as cheap there, and as I think a milder climate will be better for me and two of my children, I intend to go and see the country, and may visit friend Porter, at Charlottesville, Va. He tells me bees do well there. But I have never heard as to the prosperity of bees in East Maryland. My first swarm came off yesterday. H. B. ROLFE.

Westfield, N. Y., June 8, 1878.

For the American Bee Journal.

Moore's Section Boxes.

DEAR EDITOR:—I have been expecting for some time past to send you one of my section boxes as I use them, but I have been so very busy with the bees, and for them on account of being hindered in building a honey house, that I have had no time for anything else.

As fast as the sections are removed from the cases on the hive, glass is adjusted to edges of uprights and the caps put on, making a tight box very quick. If it should be necessary to open the box at any time before shippment, the caps are slipped off and readjusted with very little trouble. Before shipping, the caps are removed and a very little warm glue is put on with a brush causing them to adhere to the sections making a perfectly tight box.

For shipping, I use crates holding 1 doz. boxes, setting them in 2 rows glass to glass, the rim of cap preventing any breakage, making a perfectly safe package for shipping long distances, and a neat and most

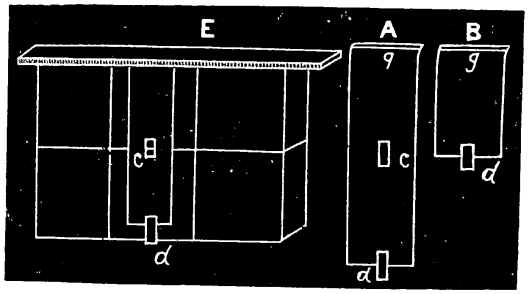
attractive package on the counter. I had some caps made with narrower rims (some ⅜ and some ½ inch) than sample, but I think sample size shows best.

I am making sections this season 2 inches wide, and the uprights only 3-16 thick.

You inquired as to how I used separators. I did not use them last year; sold our honey cased up in about an equal number of one and two-comb boxes.

In referring to caps I should have said, they are made to accommodate any number of sections, making as large or small a box as one may desire.

We are using separators in all the cases this season. We use both side and top cases. Side cases are 15x12x4 inches, inside measure, holding 12 sections 5x6 inches, top cases 15x10¼x6, holding 15 sections.



Above is a sketch of separators, also side case of sections with separator in place. I use tin 12x12 inches, cutting those used on side cases 12x4 inches, and those for top cases 5⅝x4. *A* represents separator for side case, with end (*g*) turned over ¼ inch at right angle with balance of strip at top. Slots are cut in tops of cases (*E*), and separator (*A*) slipped down between sections, strip (*d*) holding in place at bottom, and resting on on flange (*g*) at top. There is also a slot (*c*) cut so as to allow a passage for bees at bottom of top, and top of bottom tier of sections. These side cases are set down on bottom of hive between division board and side wall of hive. In top case I use 15, one to each section, they hanging by flange at top, same as those in side cases.

I send you a box filled last season, charges prepaid. Yours, truly, J. E. MOORE.

Byron, N. Y., June 18, 1878.

[Thanks, friend Moore, for the boxes.—They are very nice, and the idea is excellent. Easy packing, safe transportation, and attractive packages are the points to recommend any plan of marketing, and yours have all these points of excellence.—The "caps," friend Moore speaks of, are made just like paper-box covers, and pass over the box and glass just in the same way, both at top and bottom. Any size of sections may be treated in the same way. —ED.]

For the American Bee Journal.

Wiring Comb Foundation.

I see the cry from all quarters is: "Sag, sag, sag." I, like many others, discarded it a year ago, till some improvement was made to remedy this.

Last winter, as I was having my "winter dream," for all bee-keepers know what "winter dreams" are; we dream all winter long, about what big things we intend to do the next summer. Well, this is one thing I dreamed, and have been practicing it this summer with great success. Before nailing up the frames, I punch about 4 or 5 holes in the end bars. Then after they are nailed, run No. 26 wire across the frames 4 or 5 times, then place the foundation in the sun about one minute; then lay it in the frame, run a gum rubber over it, if you have one; if not, press it down on the wires with your fingers. This presses the wire into the foundation, and it remains there like a charm. Take a small brush and fasten to the top bar, as has often been described.—Place these combs in the centre of strong hives; and use them in new swarms.—Shade or no shade, but "never a bit will they sag." And after they are built, if "Mary Ann" should happen to drop one, there would be no reason for "getting up on your ear," for they would not break.

D. S. GIVEN.

Hoopeston, Ill., June 21, 1878.

For the American Bee Journal.

Cyprians.

Judging from correspondence received, there is much interest awakening in regard to the introduction of this new variety. We are often asked to state the difference between them and the Italians—how their hybrids behave and work; whether they are superior to the Italians in gathering honey; their ability to winter without spring dwindling, docility, etc., etc.

A portion of these inquiries we are able to answer; concerning others we are in the midst of experiments and do not care to draw upon our imagination, or venture an opinion until we can do so with some degree of certainty.

The points claimed for the Cyprians are that they equal the Italians in all desirable qualities, and surpass them in prolificness and ability to winter with less loss.

In appearance the workers closely resemble the Italians, but are lighter and handsomer. The upper and posterior portion of the thorax has a broad yellow margin, which readily distinguishes them. The queens we have thus far received or raised do not have the upper side of the abdomen as light as the average Italian queens.

These bees have been described as being longer and slimmer than the Italians, we however do not find this to be a noticeable feature. The comparative length of the tongue will be determined by Prof. Cook, who has kindly offered to make a careful microscopical examination.

In docility they equal or excel the Italians. The comb having the queen thereon may be taken from the hive, and the queen will tranquilly continue her laying, the workers adhering to the comb with great tenacity.

The queens are exceedingly prolific and fill the comb very evenly with eggs, seldom skipping cells. We found sealed and hatch-

ing brood the first of December, and when examined the first of February, the combs were well filled with eggs and brood. On the first of April no stock in the yard was more populous.

As we had little or no trouble with spring dwindling this seassn no comparison on this point can be made.

Any points of superiority or inferiority we may discover we shall announce through THE JOURNAL.

We have experienced great difficuly thus far in obtaining bees from the island alive. We look for the arrival of an importation early in July, and as they are to be sent according to our directions, we expect to receive the greater part, if not all of them, in good condition.

We consider the Cyprian a higher grade bee than the Italians, and think they are destined to be a popular variety.

Will not some one import the Carniolan bee and test its merits?

C. W. & A. H. K. BLOOD.

Quincy, Mass., June 20, 1878.

For the American Bee Journal.

"Floating on the Stream of Time."

FRIEND NEWMAN:—I left New Orleans May 18th, with 61 colonies of bees; all except two or three very strong with bees, and two-story hives. I closed the hives on the 17th, the weather being quite warm all the time. I stopped at this point the 24th, at 6 p. m., deeming it unsafe to keep them confined any longer. I found them very restless after the fourth day. My bees are on the bank of the Mississippi River close to the water. Bees have been doing well here this season. I was too late, as the season is three weeks ahead of the usual time. I stopped to rest my bees, and will remain about ten days. The weather is quite wet here; plenty of white clover now and some persimmon. I have been inquiring about the country between Cairo and St. Louis. Some would say one place and some another, and the truth is, no one not a practical bee-keeper is to be relied on, for they don't know. I passed a fine place and stopped here, but I shall try the Illinois River next week if health will permit. I wrote several bee-keepers about localities, but only two responded—friends Palmer and Mr. Riehl of Alton. It is the first undertaking of the kind, and what success there is to be will depend upon the season, as it does at all times.

The floating apiary of Mr. Perrine started from New Orleans the 14th inst., and I passed her tied up sixty miles above New Orleans on the 19th. At that rate it will be some time before Cairo is reached. Comparing it to my own trip, I don't see anything to encourage its owner. Every one on the river has heard of "that 2,000 hives coming up the river." When the boat, (James Howard, which I was on aboard of), came along with bees there was some excitement. All asked if it was that great floating apiary. Captain O'Neal would tell them it was the "Flying Apiary," and he had it on board to amuse his passengers. If Mr. Perrine succeeds I am sure of success, for I have superior advantages. But I know I will not overstock the honey market in America, and Mr. Perrine has no greater show to supply "all Europe."

W. B. RUSH.

Wittenburgh, Mo., (opposite Grand Tower) May 28, 1878.

[We understand that Mr. Perrine had an accident; something gave out on the steamboat, and he had to return to New Orleans with it to be repaired, leaving his "Floating Apiary" 60 miles up the river. We understand that it is now *floating* proudly along, (behind the steam tug), and will put in an appearance in due time, if nothing unforeseen prevents. Dr. Rush is *now*, June 20th, at Pekin, Illinois, and reports his bees in good order, gathering rapidly. So much for floating apiaries.]—ED.

For the American Bee Journal.

Bee Notes from Georgia.

I inclose a specimen of a plant that I think is Melilot Clover. I discovered it accidentally. Had no idea there was such a plant in this part of the country. I think with it we can be certain of a honey crop, and a large one too, if it continues to be as good as it is this year. I have never seen bees as fond of anything as they are of this, and it has such a profusion of bloom, and I am told it blooms for more than a month. It stands about 8 feet high and is covered with blossoms. I held it in front of a hive, and in less than five minutes there were a half a dozen of bees as busy as they could be. I visited the field in which it is growing, and I don't think I ever saw as many bees working on one thing; the whole air seemed to be filled with them, and the plants alive with them.

My bees have not done as well this year as I anticipated, on account of the cold, damp weather during May. We lost two weeks of sour-wood bloom; the bees are busy working on them now, at least what are left of them, and will get a little honey. If we have a honey-dew we may come out all right yet. I am afraid it is rather late.

Speaking of honey-dew reminds me of a circumstance that happened a few years ago in connection with honey-dew; and while they are now discussing it through the JOURNAL, some one may be able to explain it. It was this: A few years ago our Sabbath School determined to have a social gathering of the different Sunday Schools in the neighborhood; so on the day appointed, the 20th of May, as near as I can recollect, there assembled with us about 1,000 people, and some horses of course. We all had a very pleasant time, notwithstanding the day was rather warm. But it all passed off pleasantly, and all went away well satisfied, and it seemed that the little busy bee was to be satisfied also, for strange to say, next morning the trees under which the crowd had spent the day were literally dripping with honey dew; and the strangest part of it all was that no where else in the

large grove covering 20 or 25 acres, could any be found. I can't explain it, and would be glad if some one who is better versed in these things would do so.

I have one hive that has done well this year, I have taken 50 lbs. of comb honey from it alone. JAMES F. HART.

[The plant is Melilot clover. It is excellent for bees in any locality and grows on any soil and in any climate.]—ED.

From the Detroit Tribune.

Bee Culture in Northern Michigan.

The lands in the above region are quite various in their character, as is shown by the timber, which in some places is scrubby pine, the trees thinly scattered and interspersed with oak, while in others it is a tall, straight, very thrifty—really beautiful growth of beech, maple, elm, white ash, basswood or linden, etc.; again thick forests of hemlock and cedar, dark and somber, are to be seen, or the ground is very closely set with massive white pines, arrow-like in straightness, waving their tall tops in the fresh breezes that blow across the great inland seas lying on either side. Large districts formerly covered by pine timber have been burned over and then occupied by a close growth of raspberry and blackberry bushes and small poplars, furnishing large supplies to the industrious bees, so that from many a region that appears almost worthless, and is now very desolate, an abundant and delicious store of nectar might be obtained.

To the question: "Where do your bees get so much honey?" An old bee-keeper living in a sandy pine region lying adjacent to Lake Michigan, jokingly replied: "I guess they get it out of the pine knots and stubs." This apiary is located a few rods from the water's edge, hence the bees have only a half range, yet they collect an abundant supply of honey for themselves, and, on the average, a generous surplus for the owner, the sources being the willows, poplars, early wild flowers, maples, fruit-bloom, clover, wild raspberries and blackberries, buckwheat and autumn wild flowers, such as fire-weed, golden rod and asters. The soil in sections where pine timber grows, is sandy, very light, and generally unproductive, though rye, buckwheat, and near the lake shore, fruit can be raised successfully.

It is in regions where the growth of timber is composed of beech, maple, elm, white ash, linden (basswood), with some ironwood and oak interspersed, that all sorts of crops raised in Michigan thrive astonishingly well, and that the apiarist finds his labors abundantly rewarded. Should the section lie within twelve or fifteen miles of the shore of Lake Michigan, it is especially adapted to the growing of all kinds of fruits. Tender fruits do not succeed so well inland, as the frosts are more severe. The soil where hard timber grows varies from a stiff clay to a rich, warm loam. The latter with a clay subsoil is most productive. The stumps rot soon and the labor of breaking up and tilling is not so great; it does not leach, nor does it show the effects of drouth as soon as the heavier soils. Roots, grains, hay and fruits succeed admirably. A yield of 30 to 40 bushels of wheat to the acre is often obtained. The snows are so deep that the ground rarely freezes; and near the lake shore the climate is much milder than that of the southern portion of the State. The vast amount of lumbering, fishing, shipping and settling going on furnishes a ready home market for all sorts of supplies, stock, etc., while railway and steamboat lines place the greater portion of this region in close communication with large cities.

For the apiarist these hard-timbered sections are particularly inviting, because the immense forests of linden, with large quantities of raspberry and blackberry bushes, and, in the fall, acres of fire-weed, golden-rod and asters furnish pasturage that cannot be excelled. The most beautiful and finest flavored honey the writer ever saw was produced in central Oceana county from the blossoms of the wild raspberry. The honey from this plant is very clear, sparkling, thick, remains liquid a long time, and possesses a very delicate and agreeable flavor; the yield is also extraordinary. The great linden forests send forth a rich perfume from their millions of tassel-like blossoms, which appear during the early part of July, and then the bees have a royal feast, the yield in good seasons being enormous. A neighbor secured an average of nearly 200 pounds of honey to the hive for several seasons in succession, obtaining at the same time a rapid increase in his stock. One of his hives yielded him 526 pounds of liquid honey in one season. The success of the writer in Northern Michigan has tempted him more than once to return to this portion of our State from which other considerations called him. FRANK BENTON.

For the American Bee Journal.

Honey Rack and Separators.

We who are putting up honey to ship must use the separators. How to do it is doubtless a vital question with many. After much experimenting I think I have made a desirable Rack. I wished one that would combine the following points, some of which Dr. Southards's supply, and some Mr. J. P. Moore's.

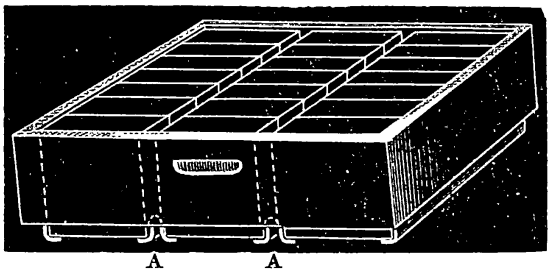
First—It is desirable to have the sections lengthwise over the brood-combs; for if across they are often built the other way.

Second—To have sections that will or can be used in wide Langstroth frames suspended and the size 4¼x5⅝ does meet this, and then use separators to match, as many of us are doing.

Third—A Rack that will fill the Langstroth hive and admit a separator of wood or tin, without fastening, except as all are wedged up and yet be bee-tight and tier up readily without vacant space between the tiers.

Now all are not agreed as to the superiority of wood over metal separators, claimed by many. With me it is a question of economy, as I use my grape box veneer, such as I make boxes from. No glass, and no fitting of separators, if cut right. I will here give a description in full. I first used

sheet iron, but tin I find strong enough for three tiers deep and more easily cut and formed. There is no projections above or below and they tier up bee-tight. The object is attained 1st, of using sections lengthwise; 2d, of the least possible surface for propolizing; 3d, using only a few long separators, costing a trifle only; 4th, of tiering up bee-tight; 5th, to use same size section as in wide Langstroth frames.



Sides ⅝ thick and full width of 3 sections and 17¾ long. Ends ¼ thick and full width of sections and ⅛ less than width of hive and nailed on to sides. Mine are 14¼. The end supports are angle tin ¼ in. bent at right angles and tacked to ends strongly. The two middle supports A, A, are made of tin bent so as to be ⅛ in. apart, and to stiffen, insert ⅛ strip of wood. I tried both sheet iron and tin, but find the tin, if good, strong enough to support three tiers. These are fastened by a nail through the side; two nails may be used. The wood greatly supports and stiffens the arch.

The rack rests on two V shaped strips across the brood-combs. As the middle rests are ⅝ deep the separators have to be matched ¼ inch and they rest directly on the middle support and are in place.

Permit me to say good oiled cotton cloth is a cheap material for summer quilts. Brush on boiled oil on one side of stout brown sheeting, first well dampened, as sailors oil their clothing. I am trying it. Bees will not gnaw it I think, and it will be tight.

J. W. PORTER.

Charlottesville, Va., May 20, 1878.

[This Rack, which friend Porter has so kindly made drawings of for the JOURNAL, is intended for "tiering up," as well as to be used in single story on the hive. It came too late for the June number, or would have found a place in it, so as to make it of more value at this season. The cut will give a good idea of the Rack. The middle and end supports have been used by J. Oatman & Sons for a year past, as well as some others. As many are inquiring for a Rack to allow of "tiering up," this will be interesting, though we think that idea not so important as getting our surplus honey in desirable shape for marketing.]—ED.

☞ We keep Prize Boxes and Crates in stock at this office, and can supply orders, without delay, lower than the lumber for a small quantity can be bought for, in the country. See prices on last page of cover.

For the American Bee Journal.

Items from California.

On Feb. 1st I had 18 colonies, 3 of which were Italians (1 imported, 2 home-bred.) I have now 31 good colonies Italianized; brood is hatching and hives filling up fast. I had no black drones; swarming so far, artificial. I had several young queens to swarm several times, but none to go away that I know of. There has been some mixing of queens; one to-day got out and mixed with another swarm; the bees nearly deserted their hive, even with eggs and young brood just started. I saw the queen, but thinking her not mated, or not sure, let her fly (the bees coming out furiously), but the colony went into another hive; I examined but did not find her, but the other queen was all right. I found a nucleus to-day without bees or queen, although they had a laying queen a few days ago and plenty of room. Semehow I have lost a good many young queens; I think mostly by bee-martins; though I have found several outside of the wrong hive, dead. I had one hive to swarm out and return three times. Previous to this they had a light colored queen; since, they have a dark one. I have had to replace quite a number of queens that were lost.

This has been a good season for honey, though in re-queening I have lost part of its benefit. Shall have to use the extractor soon. I expect to be able to use foundation for comb, but delay in its arrival, have had to let bees make their own comb. I have introduced laying queens by smoking and shaking queen in front, letting her run in; also by smoking and shaking all bees from the combs and then shaking queen with a frame full of bees right among them; then putting combs in place and closing hive, in each case with success. I had a number of dollar queens last season from the East, but my imported queen is the cheapest; so far she has beat them all. Most of my young queens are from her. I think dollar queens poor investments. I had 5 of one party; 2 of two; 3 of one, and 2 of another. I have only 2 left and one of them has to be built up. I shall try imported queens this year. My last swarm transferred in January, filled their hive first and went into sections before others that seemed to be in better condition. Hives are mostly Langstroth. I don't pretend to be an expert in transferring, but I can beat the sticks or Novice's clasps. I use wire No. 16; first bent down one end ¼ inch; then bend down to fit width of top bar of frame; then to fit depth of frame; then to fit under bottom bar the width of bottom bar; then some pieces bent four square, with the ends nearly meeting. These go on ends of frame, the points or ends of the wire fitting into the cells and spring together. They do not take so much room as sticks; bees do not mind them so much; there are no strings to bother; they are removed by pulling out bottom and slipping off the top. If they are made to fit snugly, they make neat work; the lower part keeps the bottom bar from sagging. One set will last forever if the frames are all alike. I use up all pieces; with these it makes no difference whether full of honey or not, or how warm

the weather. I raise my queens in nuclei of 3 frames, same size of hive; have three such of five apartments; shall make 2 more, so as to winter about 25 extra queens.

Napa, Cal., May 6, 1878. J. D. ENOS.

From the Michigan Farmer.

Spring Feeding of Bees.

In this locality the white clover harvest has fairly commenced, but it is rather late this year on account of the cold, stormy weather, which has prevented bees from profiting by the early spring flowers—fruit bloom, &c. It is very seldom that a season occurs when spring feeding proves as necessary as it has been this year. Real winter weather disappeared quite early and there was every appearance of an early opening of the working season; under such circumstances, strong colonies of bees, especially those containing considerable honey, always start large quantities of brood. It only needs a few bright, warm, spring days to enable the bees to take one or two cleansing flights and get fresh water and new pollen, as well as put their hives in order, and they will go forward rapidly with the brood-rearing, which is generally commenced before winter is over.

It takes large quantities of honey to prepare the food for the young larvæ, as well as to sustain the rapidly increasing population of the hive; hence if cold, stormy weather ensues, the bees may be obliged, as a precaution against starvation, to discontinue brood rearing, or even to remove the undeveloped larvæ from the cells, and, if very short of provision, they will, in desperation, tear the pupæ from the cells; then comes desertion of the hive, or starvation, unless the bee-keeper is on hand to avoid such a catastrophe by liberal feeding.

There is great danger of this result if feeding has been commenced and then discontinued, for the additional brood the bees are induced to start must have food.—Such a case should not occur, however, and the bee-keeper will always find it to his advantage to secure early and constant brood-rearing, by feeding up to the time the harvest commences, or until the bees are able to find honey enough in the fields to enable them to keep up a large supply of brood.

Some have claimed that spring feeding, by deceiving the bees into the belief that honey could be found in the fields, induced them to fly out when the weather was unsuitable and thus to perish, materially weakening the colony instead of increasing its population. Such may often be the result if they have access during the daytime to honey or any liquid sweets placed in feeders, but if combs containing sealed honey are placed in the hive and a small portion is uncapped just at nightfall, or if the feeders are supplied only at dusk, and no more food given than the bees can remove during the night, no such result need be feared. This plan avoids danger of robbing.

The writer recommended these methods last spring, and a recent examination of a large number of colonies of bees in various apiaries adds more testimony in favor of them. These stocks that have been fed regularly during the recent unfavorable weather are now strong in numbers and are profiting by the present harvest, while others that have received no attention and that barely had honey enough to carry them through are not as strong or no better off than two months ago. Others that had considerable honey but that were not stimulated are not in good condition now.

The sole care of the apiarist up to the time of the real harvest should be to rear as much brood as possible in every hive. To this end the combs should be so arranged as to give regular worker cells near the center of the hive, the hive should be tightly closed above and the entrance made small so as to retain the heat, and the bees should be stimulated by a frequent supply of food. This idea that only strong colonies of bees are profitable cannot be too thoroughly impressed upon the minds of novices.

FRANK BENTON.

For the American Bee Journal.

Foul Brood.

Bees came out in the spring mostly weak; they commenced gathering about March 10, and continued until April 22. We had some heavy rains and honey failed; they again commenced gathering May 1. I have increased about 50 per cent. I have some strong colonies that have gathered from March 10 to April 22, about 50 lbs. of honey each.

I have had 85 colonies with foul brood in the last 12 months. I have lost but 6. I have cured 60, and I am now working with the balance. The way I do is to take out the queen, spray the combs and bees with salicylic acid and borax without uncapping. (This is Mr. C. F. Muth's remedy of Cincinnati, O.) Then in about 5 days after I give them a queen cell or let them raise a queen. I try to have a laying queen in the hive before 21 days. In 21 days from the time I took out the queen, I go back to the hive and uncap all of the foul brood cells, and spray the combs and bees with the remedy. It is best to extract the honey, then spray the combs and bees, for I had three cases to return, but those were very bad cases. By spraying the combs and bees when I take out the queen, I have but very few cells of foul brood that has not been cleaned out at the end of 21 days.

The way I prepare the remedy is to take 128 grains of salicylic acid and 128 grains of borax, and put it in a bottle and add 2 ounces of rain water and ½ ounce of alcohol; then shake it up well, let it stand about one-quarter of an hour, then add 14 ounces more of rain water, and shake well again.

Waterloo, La. L. LINDSLY, Jr.

[The best way to apply this remedy is by using an atomizer, which sends a very fine spray over the comb and bees. Such is illustrated on page 212, and can be obtained at this office.—ED.]

Our Letter Box.

Borodino, N. Y., June 11, 1878.

"I have been obliged to feed 1,500 lbs. of honey and sugar syrup, to keep my bees from starving, and I fear the end is not yet. Rain, with high winds and frost every few nights being the cause."

G. M. DOOLITTLE.

Augusta, Maine, June 12, 1878.

"The weather is cool, and prospects are poor for honey crop. I fear white clover will not yield much honey, though it may be too early to tell how it will come out yet. God speed the AMERICAN BEE JOURNAL."

ISAAC F. PLUMMER.

Hastings, Minn., June 7, 1878.

"Sickness last summer prevented me from attending to my bees, and I sold off nearly all, last fall. I have now built up the remainder to over 50 colonies, and hope, health permitting, to have a good report of this season if Mr. Perrine's 2000 colonies do not come up the river and appropriate all our bee pasturage. We wait patiently for his report. It is a great undertaking."

WM. DYER.

Carson City, Mich, June 13, 1878.

"In this part of Michigan, fruit is all destroyed, crops of all kinds are badly damaged, and worse than all, it is freezing about 2 nights in each week. We had 3 fine days early in this month, during which time our strongest colonies of bees stored 40 lbs. of honey, in sections; comb was furnished to nearly all of them. Since then it has been so cold that they have quartered down below. Honey was gathered from the red raspberries."

HIRAM ROOP.

Crystal Springs, Miss., June 6, 1878.

"I have about 50 colonies, probably about one-half in tolerable condition. Fully three-fourths are pretty Italians. They built up and gathered rapidly during fruit-bloom; and with but few exceptions, they ceased to raise brood immediately after that, and dwindled considerably. But for the past 10 days they have been gathering well. Some are averaging 10 to 20 lbs. per week of extracted honey, and some are storing in boxes."

JESSE R. JONES, M. D.

Oquawka, Ill., June 14 1878.

"I noticed a slight mistake as to date of our last meeting, it should read October 2nd and 3rd, instead of October 12, as printed. Please correct in the next number of the JOURNAL.

Bees are doing finely in spite of the almost continuous rainy weather; some new swarms, and they are building new comb. Could we but have fair weather, things would go ahead with a *rush*. Bees are working this morning with a tremendous power.

I can nail together 1000 Prize Sections in 10 hours work, with my spring section mold. Who can beat it?"

WILL M. KELLOGG.

Eugene, Ind., June 10, 1878.

"The honey season is backward here this spring. We have had a cold rain for the last two days. Unless the colonies were strong they have not done much more than just gather the honey as fast as they eat it. There have been but few swarms here, so far."

H. H. HARTFORD.

Des Moines, Iowa, June 11, 1878.

"One good swarm April 25th, and 8 more before the middle of May, all from 7 colonies, and fed from last year's stores, wintered over with the bees in the hives.—Have not fed over 10 lbs. of sugar since Nov. 1st, and that wholly for experimenting. Shall feed for a few days now, as the flowers seem to secrete no honey."

J. M. SHUCK.

Wethersfield, Conn., June 19, 1878.

"Clover is at its best—yet the weather for the past 10 days has been bad—cold, cloudy or stormy almost all the time; still, as a whole, my bees have done well up to this date. As usual, some are doing little or nothing; others extraordinarily well. I have had no swarms yet, and do not want any. My neighbors have, especially one particularly smart one, who has had 3 from one hive, and gives this to show that his bees are managed better than others. Oh, yes, he is *very* smart, but if I can make mine stay at home and attend to business *I* shall be satisfied."

F. J. SAGE.

Vermont, Ill., June 14, 1878.

"On account of failing health, I have sold most of my bees (Italians and Hybrids), and will fill no more orders until further notice, keeping only a few colonies of my Cyprian bees to employ my leisure time. Having been stung considerably during the past year, I am advised by physicians that my constitution will not endure so much poison, and am compelled to abandon bee-keeping on a large scale. I have handled bees for the past 10 years, buying my first colony of bees at the age of 9 years, of Mr. Abe Arthur, of Good Hope, Ill, now near Scottsburg, in the year 1868. During the last 2 years I have given value received and made all losses satisfactory. Thanking all for their patronage, I wish them success in bee-culture.

HARDIN HAINES.

Mt. Gilead, O., June 3, 1878.

"I took the BEE JOURNAL for several years, but last year I felt too poor to take it—but I believe I am poorer now than I would have been if I had continued to take it, so I renew again, and think I can get up a club here. Since April, bees have done poorly. May was a poor month for them.—I wintered 30 colonies on their summer stands without loss. During April, while the peach and cherry bloom lasted, they gathered honey and pollen fast, and increased rapidly. In May they destroyed their drones and some of the worker brood. They are not as strong now as they were on May 1st. They are doing well now on white clover. Many bees in this vicinity starved. I am impatient to get the JOURNAL to learn how they have done in other localities."

JOSEPH TRUAX.

Rome, Ga., May 15, 1878.

"The Italian bees commenced to swarm on March 15, and swarmed rapidly up to April 25. Black bees commenced to swarm in this section, April 12, almost a month's difference. Some swarms have cast 2 swarms, and have already given over 40 lbs. of fine honey. This spring has been an exceedingly fine one.

"The honey season opened finely, and during March and April was good. Since then we have had only a medium supply for the bees; this enabled them to breed rapidly and swarm tolerably well. The prospect now for the South is rather poor for a large crop. Those having good honey for sale, may rest assured of obtaining a good price." A. F. MOON.

Embarrass, Wis., June 4, 1878.

"I packed 5 hives in a box, with chaff 1 ft. thick all around and over, with an entry 11x3x1 ft. in front. The rest in my extra-dry room in the cellar. The result was, my bees all came out strong, and not a quart of dead ones on the cellar bottom. Those out of doors lost scarcely any, and were very strong. I had swarms April 29, May 1, 7, 13, and 24. The earliest I ever had them before was June 22. Chaff packing *this time* is far ahead. No swarms yet, from those wintered in cellar. I think I should have had, were it not for the killing frost of May 13. Colonies wintered out of doors have killed drones. Those wintered in the cellar have not. They must swarm soon, I think. White clover has commenced blooming a little." J. E. BREED.

Garrettsville, Ohio, June 10, 1878.

"Like many others, I have to complain of unfavorable weather for our pets—the bees. Spring opened very fine and brood-rearing was far in advance of the usual season. Then followed 20 consecutive days, with more or less rainfall, followed by frosts and cool weather. Swarms, that were apparently about to issue, killed their drones and did but little more than consume their stores. White clover appeared May 24th, and since that date they have been permitted to work about two-thirds of the time. I have nearly 40 colonies, and the best of them are now storing surplus, the others nearly full, but not in the boxes yet. White clover is more than usually abundant in this vicinity, but, so far, it has not afforded much honey. Raspberries are plenty, and have had their almost undivided attention, but they were much injured by frosts." WARREN PIERCE.

Strait's Corners, N. Y., June 10, 1878.

"Thanks for the Emerson Binder and your pamphlet on "Honey as Food and Medicine." It is just what the people should read. It contains so much valuable information that I shall distribute them largely next season. I wintered 24 colonies in the cellar; chaff cushion on top, and hive raised ¼ inch from the bottom board. I gave them a fly, March 8th, and set them back at night. April 15th, I put them on summer stands, all in good order, except 2 weak ones, which I lost in springing. I wintered 4 out of doors, in a large box, packed in chaff, with upward ventilation, and allowed them to fly at will. These are very strong. I had large swarms issue June 2nd, and June 5th. Apple bloom was destroyed by frosts; white clover is just coming in bloom. We had hard frosts on the nights of the 5th and 6th inst. I hope the weather will warm up now; if it does not, the honey crop will be light in this section. Upon May 15th, I saw about 30 bees waltzing about on the alighting board; upon examination, I found a young queen dead. I suppose the cause of her death was that a preparation to swarm had been made, and the bad weather at that time preventing the swarming, caused her to be killed.—Success to the JOURNAL."

ISAAC E. PELHAM.

Fayette, Miss., June 11, 1878.

EDITOR AMERICAN BEE JOURNAL:—"I send you a bunch of flowers and leaf from a tree in this place. Would like to know what it is, and its origin, whether trees could be produced from the seed, or cuttings of the tree. Some call it the "Varnish tree;" and the only one in this part of the country is now about 1½ feet in diameter, tall and bushy, limbs lengthy and drooping. It blooms twice a year, spring and fall; and is now one mass of flowers, in bunches, (as per sample), at the end of each sprig or limb. The body of the tree is dull green, very smooth and glossy. The leaf sent is not quite full grown, the tree holds bloom a long time, and its odor is something like the night-blooming jessamine. The bees are swarming on the flowers from daylight till dark; not only honey bees, but every kind of bee, wasp, yellow jacket, ants and numerous insects that love sweets. Do you think it produces abundant honey? It must do so, from the fact that every bee and insect seems so fond of it. The tree is perfectly beautiful." G. W. MCMURCHY.

[Prof. Beal kinkly gives me the following information: "It is *sterculia plantanifolia*. It comes from Japan. Perhaps it does not produce good seeds in the Southern States. If it does, the seeds will grow."—The plant is closely related to the mallows.—A. J. COOK.]

Woodville, Miss., May 18, 1878.

DEAR FRIEND:—Many thanks for your pamphlet on Honey. I'll warrant that no one appreciates it more than I do. I know it is too late for the book, but you can put the following into the JOURNAL:

COUGH CANDY:—Boil a large double handful of green hoarhound in 2 qts. of water, down to 1 qt. Strain, and add to the tea 1 cup of honey, 1 cup sugar and a tablespoonful each of lard and tar. Boil down to a candy, but not of the brittle kind. It is the very best cough mixture I know of.—Begin with a piece the size of a pea and go up to as large as needful.

HONEY COUGH CANDY.—It is made entirely of honey, but thick with walnut kernels. The dose is considerably larger, being quite as large as a pecan. Neither should be boiled to the point of brittleness, to better regulate the size of the dose

On March 25th, I noticed, while inspecting a hive, some *two or three* bees evidently hostile to the queen. I picked them out and killed them and hoped all the rest were loyal, seeing nothing else to the contrary; but the next morning, lo! there at the door was the queen *dead*. I cannot tell you how it distressed me. It was only about midday, and I could not think what either myself or the poor queen had done to anger the bees.

The colony that was trying to swarm the middle of the month made it out, I think, though I did not see them, but on the 25th I saw a young queen in that hive which had just emerged from her cell. I suppose I must have overlooked that cell when I cut out the rest. I forgot to notice when I saw the first drones, but there are lots now in some of the hives. The honey coming in now is delicious. ANNA SAUNDERS.

Clyde, Iowa, June 13, 1878.

"In answer to many questions—'What killed the bees?' I will say: Improper stores. During the winters of 1877-8, I lost 75 per cent.—cause, poor honey. A large proportion of those lost were blacks, while a large per cent. of those left was Italians. Does this not prove that the latter are more hardy, and that they procure better stores? They are more gentle, and for this reason alone I prefer them to the blacks."

R. ECKLESS.

Elizabethtown, Ind., June 15, 1878.

FRIEND NEWMAN:—"I see by last month's JOURNAL that you report 'universal cold and wet.' With us, it has been so; even now, June 15, we are having very cool nights, for this time of the year; and to make matters worse, it rains almost every day. White clover has been in bloom for several weeks, and has furnished but little honey. Bees are in nice condition, however, to work in boxes, if it only turns warm and dry. As the queens have had things all their own way, filling the combs full of brood from top to bottom, and bees are strong in numbers, they will have to store in boxes if there is any honey to gather." JOSEPH M. BROOKS.

Sherwood, Wis., June 7, 1878.

"EDITOR JOURNAL:—I send you a small twig from a willow covered with aphides, or lice. I also enclose some of the leaves with the 'honey dew' adhering thereto.—From close observation made by Mr. W. R. Bishop where these parasites were congregated in large numbers, we are satisfied that Mr. Chas. Sonne is correct in his assertions on 'honey dew,' in the June number of the AMERICAN BEE JOURNAL. When they were disturbed, the liquid could be plainly seen ejected by them, and with sufficient force to be distinctly felt upon the hand. The upper side of the leaves were completely covered with 'honey dew,' and the bees had been working quite vigorously upon them. We thought we would send you some of the genuine article for examination, if you should desire to do so and report." L. POTTER.

[Thanks, friend Potter, for the samples. They prove, pretty conclusively, that you are correct.—ED.]

LaPorte City, Iowa, May 16, 1878.

"Bees wintered well, consuming but little honey. They commenced breeding very early. On Sunday, April 28, I had a large Italian swarm. The Sunday following, a second swarm, and I don't know how many more would have issued if I had not removed the queens and cells. This is a good proof that the Italians are ahead of the blacks. Bee-keepers of Iowa, now let us hear who got the first swarm, and whether it was a black or an Italian swarm. I think that not more than 5 per cent. of all that were wintered in cellars have died.—With splendid prospects, bee-keepers are happy. May the JOURNAL ever prosper, and help the bee-keepers to solve the many mysteries yet hidden." L. L. TRIEM.

Great Bend, Pa., June 24, 1878.

"DEAR EDITOR:—Your very kind letter is received. We are happy to report favorably of the foundation machine you sent us. We have made a batch of very nice comb foundation. We made some wooden dipping plates, and like them much better than the metal ones. We use nothing but water and have no trouble about the wax sticking to the plates. We think we shall be more pleased with the machine as we become accustomed to its use. Our bees are doing nicely and drawing out the foundation in a beautiful shape. We are extracting some very nice honey." SQUIRES BROS.

Boone Co., N. Y., June 7, 1878.

"I am much pleased with the BEE JOURNAL. Many thanks for its enlarged size.—It is the largest and best bee paper published in the world. I never had any of those remarkably large yields of honey, &c., to report, that some do. My bees are doing as well as I can expect. The weather is very cold and summer backward. I should be much pleased if we could have a correct likeness, in the JOURNAL, of T. G. Newman & Son. I think it would give much satisfaction. It seems to be natural, when we read the JOURNAL to want to know how the Editors look."

D. L. FRANKLIN.

[Thanks, friend Franklin, for your good words and wishes. Our aim is to make the JOURNAL impartial as well as impersonal, and fear it would be considered by some rather pretentious for us to parade our *physical* appearance in it. It is the mind that makes the *man*, you know.—ED.]

O'Fallon, Ill., May 13, 1878.

"FRIEND NEWMAN:—You abridged my article in the May No. so much that any one would think I had only 23 Adair hives, all told, when I really have 65. The brood I spoke of was in Langstroth frames. I had a big swarm on April 30th, with 15 queen cells started in the old hive. I have had none since; it has been so cold, with occasional frosts, ever since."

C. T. SMITH.

[We are sorry if by abreviating we conveyed a wrong idea, friend Smith, and cheerfully correct it. With all our enlarged

space in the JOURNAL, nearly doubling its capacity, we are often too crowded, and have either to abreviate or omit entirely, especially during the months from November to June. We spend a good deal of labor to make the best of all matter sent in by our many friends, and it is not often that they have cause to complain, but we suppose it was an oversight in copying the article. But we know friend Smith will excuse us. We hope all our friends, who write for the JOURNAL, will act on the advice of friend Palmer in the April No., page 123,—to boil down their ideas as much as possible, and thus give *all* a chance to be heard. It should be remembered that the JOURNAL has now nearly twice as many readers as it had a year ago, and they all like to have their letters printed. So let all condense as much as possible, or we shall be obliged to enlarge again.—ED.]

Waterloo, Ky., June 14, 1878.

"Bees are doing well here, making large quantities of honey. The white clover is the largest crop that I ever saw in this county; we have had plenty of rain to keep it good for a month longer. I am well pleased with the JOURNAL. I could not well get along without it." R. L. AYLOR.

☞ The issue for 1878 of the *Newspaper Directory and Advertisers' Hand-book*, published by the world-known advertising agency of S. M. Pettengill & Co., 37 Park Row, New York, has just come to hand. For simplicity and convenience of arrangement, comprehensiveness of scope and general accuracy, we have long regarded this as by far the best and most reliable Newspaper directory published in the United States or elsewhere. It contains a complete list of the pewspapers published in the United States and the British Provlnces, a second list arranged, for the convenience of advertisers, in counties; lists of the daily, weekly, monthly, religious, agricultural and specialist newspapers and periodicals, with full information as to character, circulation and proprietorship, and a list of the leading newspapers of Great Britain, Australasia and Europe. The volume is illustrated with portraits of Bayard Taylor, Geo. W. Childs and Brete Harte among living, and Samuel Bowles, James Gordon Bennett, of the dead journalists of the United States, while an excellent steel engraving of Mr. S. M. Pettengill appears as the frontispiece. An intesesting article on advertising, replete with hints drawn from long practicol experience of the subject, should make this volume specially attractive to enterprising business men.

PLANED PRIZE BOXES.—We have just made arrangements to cut out, ready to nail, Prize Boxes that are planed on the outsides. These we can box and deliver on board the cars for $8 per thousand. Those not planed we shall still sell for $7, as heretofore.

Business Matters.

TERMS OF SUBSCRIPTION.

Single subscription, one year	$2 00
Two subscriptions, sent at the same time	3 50
Three " " " "	5 00
Four or more, " " " ..each,	1 50

Advertisements will be inserted at the rate of **20 cents** per line of Agate type, each insertion, cash in advance. One inch measures fourteen lines.

Notice to Advertisers.—We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed, and such advertisements discontinued. No advertisement received for less than $1.

Address all communications and remittances to

THOMAS G. NEWMAN & SON,
974 West Madison St. CHICAGO, ILL.

ADVERTISING RATES.—The *Bee-Keepers' Magazine* charges 50c. per line, and *Gleanings* 30c. per line; but the AMERICAN BEE JOURNAL, acknowledged by all to be the best advertis.ng medium in the world for bee-keepers, charges only 20c. per line. Having doubled the number of our readers this year, we shall not continue our old rates where the advertisement goes in more than once—but will hereafter charge 20 cents per line for each insertion. All will please to "take due notice and govern themselves accordingly."

TO CORRESPONDENTS.

When changing a post-office address, mention the *old* address as well as the new one.

We send the JOURNAL until an order for discontinuance is received and all arrearages are paid.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways.

When ordering Extractors, give outside dimensions of frame or frames to be used, length of top-bar, width and depth of frame just under top-bar.

In consequence of the dearth of small currency in the country, we will receive either one, two or three cent stamps, for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us four subscribers to THE AMERICAN BEE JOURNAL with $8.00. Premium Queens will in every case be tested, but not sent till after July 1st.

Write name and post-office address plainly. If there is no express office at your post-office address, be sure to give your nearest express office when ordering anything by express. Give plain directions how goods are to be sent.

Seeds or samples of merchandise can be mailed for one cent per ounce. Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arragements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Prof. Cook's New Work.

Within 20 days after this work was issued from the press, 600 copies were disposed of —a sale unprecedented in bee literature.— We subjoin a few of the many notices the Press has been pleased to give it:

MANUAL OF THE APIARY, by A. J Cook, Professor of Entomology in the Michigan State Agricultural College. Second edition, revised, enlarged, mostly re-written, and copiously illustrated. Published by T. G. Newman & Son, Chicago, Ill. Among the numerous works on apiculture, we know of none so valuable to every practical apiarist as this handsome volume of 286 pages.— Every point connected with the subject on which it treats, is handled in a clear, exhaustive, yet pithy and entirely practical manner. As we consider the work well worthy of a more extended notice in a later issue, we shall merely remark here that it should be in the hands of every apiarist who is seeking success by availing himself of the latest and best information on his business.—*Rural New Yorker.*

It contains upward of 300 pages, has over 200 illustrations, and is the most thorough work on the apiary ever published. It is the only book which illustrates the various bee plants.—*Lansing* (Mich.) *Republican.*

We are in possession of a copy of the "Manual of the Apiary," by Prof. A. J. Cook, of the Michigan Agricultural College, and it is a work of such rare merit that we want to tell our bee-keeping friends something about it. Prof. Cook is an entomologist, a botanist, a ready writer, a passionate lover of the honey bee, and his new work savors of all these qualities which are essential to the writing of such a treatise on bee-culture as the public demands. We experienced great pleasure in reading the invaluable works of Quinby, Langstroth, and King of our own country, but since these works were published, new discoveries have come to light, new methods have come into practice, valuable inventions have been made, and they fail to meet the present wants of the successful apiarist.— This new manual, however, fills these wants and will be prized by the friends of the bee—not only the practical bee-keeper, but its contents are such as to be read with pleasure by every one in any way interested in the little honey-gatherer. The anatomy and physiology of the bee, its wonderful habits and peculiarities, are fully described; descriptions of new utensils and modern methods of managing the apiary are given, and a more complete statement regarding honey plants is made than was ever before given by any writer. The illustrations are numerous and well executed, the type is clear, the paper is of good texture, and the binding is well done, all of which reflects much credit on the publishers, Thomas G. Newman & Son, Chicago, Ill., who are the publishers of the AMERICAN BEE JOURNAL. No person can afford to keep bees without a copy, which will be mailed by the publishers on receipt of $1.25 for cloth, and $1.00 for paper covers.—*Daily Standard*, New Bedford, Mass.

After some preliminary remarks of a general character, the first subject treated is the natural history of the honey bee, including its varieties, its anatomy and physiology, and the origin and function of its products— with 28 elegant engravings. Then follows the care and management of the apiary, covering its location, structure of hives, boxes and frames, the transference of swarms, feeding and feeders, queen rearing, increase of colonies, Italianizing, honey extracting, bee-handling, marketing honey, honey plants, wintering bees, &c., &c.—with 82 engravings. A careful and minute index affords easy reference to any point on which information may be desired.

The whole constitutes the latest, as it is also in many respects the fullest, most practical, and most satisfactory treatise on the subject now before the public, and we do not doubt it will meet with a large sale.— *Country Gentleman.*

Thomas G. Newan & Son, publishers of the AMERICAN BEE JOURNAL, in this city, have issued a new and enlarged edition of the "Manual of the Apiary," by A. J. Cook, Professor of Entomology in the Michigan State Agricultural College. The first edition was given to the public less than two years ago, and soon achieved an unexpected popularity. With this encouragement the author was induced to largely re-write and revise the work before issuing a second edition. Taking up first, the natural history of the honey bee, he discusses its entomological characteristics, its anatomy and physiology, its natural methods of increase, and its products. Part II. is devoted to the care and management of domesticated bees. Individual experiences and apiarian writers have been laid under contribution to furnish suggestions and intelligence, and eminent apiarists and scientific journalists have expressed their approval of the book. The present edition contains the latest developments of science and the most recent improvements connected with bee-culture and honey-production, and is copiously illustrated.—*Chicago Evening Journal.*

A second edition of at least 2,000 copies, added to the first edition of 3,000 copies, means that there is an active demand for this manual by the apiarists of the country. We cannot help thinking that this is the most complete and practical treatise on the culture in Europe or America. Its 110 beautiful illustrations could not have cost, in engraving, less than $400, and its attractive letter-press and general make-up will win lots of friends for the art upon which it so graphically treats. There are 20 chapters, besides an introduction. The introduction is lively and shows who may keep bees, the inducement to bee-keeping, its recreation and profit, its adaptation to women, its delicious food for both mind and body.

Part I., Chapter I., treats on the natural history of the honey bee, its place in the animal kingdom, the class and order, entomological, the family genus and species of the queen bee, the varieties—such as the German, the Italian, etc. Then, in Chapter II., we have the anatomy and physiology, the organs, the transformations, the three kinds of bees in each colony, as the queen, the drone and the neuters or workers.

Chapter III. treats of swarming, or increase, and Chapter IV. of the product of bees, as honey, wax and pollen or bee bread.

In Part II. we come to the practical work of the apiary, its care and management, the hives and boxes, the position and arrangement, how to transfer bees, how to feed them and how much to feed, queen rearing, how to handle bees, how to market honey, the best honey plants—as April plants, May plants, June and July plants, wintering bees, the enemies of bees, and work for each calendar month. The arrangement is successive, and every topic is lucidly treated in the Professor's blithesome, light-hearted, pithy, suggestive style. The complete, elaborate index is not the least important and valuable part of the book. The author will send this popular bee book in cloth to any one who will remit him $1.25; in paper for $1, postpaid. This book, and we like it all the better for it, is a Michigan product. The author was a Shiawassee county boy, a graduate and now a professor of the Agricultural College; and this book, wherever it goes, at home or abroad, will not disgrace the State, the College, or the author.—*Post and Tribune*, Detroit, Mich.

This handsome little volume of Professor Cook has met with large favor from the lovers of apiarian studies. The first edition of 3,000 copies, published two years ago, has been exhausted, and a general wish and want has induced a careful revision of the book, with many additions and illustrations. It is both a practical and scientific discussion, and nothing that could interest the bee-raiser is left unsaid. It is a book of 286 pages, well illustrated, and very neatly printed on clear white paper.—*Chicago Daily Inter-Ocean.*

MANUAL OF THE APIARY.—The large class of apiarists in the United States will find much valuable information in this work, from the pen of Prof. A. J. Cook, Professor of Entomology in the Michigan State Agricultural College. It is not necessary here to go over the ground of the volume's contents, for they are already well and favorably known by bee culturists. This is the second edition. When it is stated that more than 2,000 copies of the first edition of 3,000 were sold in one year, the popularity of the book may be readily understood without further comment. But at the same time it is *apropos* to state that the present edition is greatly enlarged, mostly re-written, even more fully illustrated, and contains the latest scientific discoveries of the most recent improvements in methods of apiarian management and bee-keeping apparatus. The writer says he recommends nothing that he has not proved valuable by actual trial unless he gives some eminent person for authority for advising it. The volume is published by Thomas G. Newman & Son, publishers of the AMERICAN BEE JOURNAL, No. 974 West Madison Street, Chicago. —*Prairie Farmer*, Chicago.

MANUAL OF THE APIARY, by Prof. A. J. Cook, revised, enlarged, mostly re-written and illustrated, has been issued from the press of Thos. G. Newman & Son, of the AMERICAN BEE JOURNAL, Chicago. It needs no recommendation, for it recommends itself.—*Western Rural*, Chicago.

Bingham's Smoker Corner

Will contain a short card from some one every month. See Bellows Smoker card on another page.
T. F. BINGHAM.

Lincoln, Mo., June 9, 1878.

"Our bees commenced swarming in May, and still continue. We have divided some. We now have 92 colonies. Bingham's Smoker came to hand last Saturday. We are all well pleased with it. We can now send the smoke where we want to, if the wind is blowing. Sometimes we found it very difficult to direct the smoke in the entrance of a hive with a rag smoker, but Bingham's Smoker cures that fault, and we are happy. Our eyes are no longer red from smoke. Thanks to you and the ingenious inventor."
Yours, MRS. J. W. DICK.

Clockville, N. Y., June 11, 1878.

"Received smoker all right I cannot praise it enough; it is all the inventor claims for it, and twice as much, It works better than the Quinby or any other smoker that I have seen, and I would not trade it for two common smokers. It is a first-class instrument. W. V. BOSWORTH, JR.

Logansport, Ind., May 30, 1878.

"The Bingham smoker came to hand in due time, but out of shape from rough handling in the mail bags, but was easily righted up. It is all I expected, and more. I do not see how I did without it so long. I have no hesitation in recommending it to all bee-keepers." M. MAHIN.

Kenton, Tenn., June 11, 1878.

"The Bingham Smoker came to hand all right, and I have given it a fair trial. It is far better than the Quinby, which I have been using. It will remain trimmed and ready for use much longer than the Quinby—the Quinby goes out quickly. It is more durable, and I think I will send you some more orders for it soon." J. W. HOWELL.

Elizabethtown, Ind., June 15, 1878.

"I have just purchased a smoker (one of Bingham's extra large size), and to say that I am pleased with it does not half tell it. There may be other makes and styles as good, but I can't see how they could be *better*. To start the thing, put a few coals of fire in the tube, sprinkle on a little dry sawdust, then chips, and fill up with anything lying about loose. Talk about smoke! It could almost smoke out a whole camp-meeting. But the best thing about it is, that it does not go out, like the old style Quinby Smoker. I have often laid this one down on its side, while eating dinner (about an hour), and when ready to commence work again, it is ready for business. My advice to those about to buy a smoker is, to get the largest size; it costs more, to be sure, but it will give you satisfaction every time. You can throw away your bee-veils, or keep them for your visitors. *You* will not need them, as you need have no fears of stings, even from the crossest hybrids." JOS. M. BROOKS.

Prof. Cook, in his new "Manual of the Apiary," speaking of the Bingham Smoker, says;

"This smoker not only meets all the requirements, which are wanting in the old Quinby smoker, but shows by its whole construction, that it has not only as a whole, but in every part, been subject to the severest test, and the closest thought and study.

"At first sight this seems an improved copy of Mr. Quinby's smoker, and so I first thought, though I only saw it in Mr. Bingham's hand at a Convention. I have since used it, examined it in every part, and have to say that it is not a Quinby smoker. The bellows, the valve, the cut-off, and even the form are all peculiar The special point to be commended, and I suppose, the only one patentable, is the cut-off between the bellows and fire-tube, so that the fire seldom goes out, while even hard-wood, as suggested by the inventor, forms an excellent and ever-ready fuel. The valve for the entrance of air to the bellows, permits rapid work, the spring is of the best clock-spring material, the leather perfect, not split sheepskin, while the whole construction of the bellows, and the plan of the fire-screen and cut-off draft, show much thought and ingenuity. I am thus full in this description, that I may not only benefit my readers, all of whom will want a smoker, but also out of gratitude to Mr. Bingham, who has conferred such a benefit on American apiarists. There are three sizes, which may be bought for $1.25, $1.60 and $2.00, respectively, including postage.

"Mr. Bingham, to protect himself, and preserve the quality of his invention, has procured a patent. This, providing he has only patented his own invention, is certainly his right, which I think honesty requires us all to respect. Like Mr. Langstroth, he has given us a valuable instrument; unlike Mr. Langstroth, he should be granted a reward for his gift."

New Quinby Smoker Column.

It is but just to call the attention of bee-keepers to the fact that those who compare the Quinby with the Bingham Smoker, refer to the last year's Smoker, and not the better one I am selling the present season.

L. C. ROOT.

Lansing, Mich., June 6, 1878.

I have now tried the New Quinby Smoker, side by side with the Bingham, and see no essential difference in their merits, which is great praise for either one. I wish I could have tried yours before I sent out last proof-sheets of book; I should have said as much as the above in your favor, and will in the revised edition. I congratulate you, and bee-keepers, too, on your advance, A. J. COOK.

Cherry Valley, N. Y., May 5, 1878.

L. C. ROOT, ESQ.—*Dear Sir:* Your improved Smoker received and tested. I consider it the most complete one in the market. I bought eight of Mr. Bingham last winter, but had you then been manufacturing the perfect Smoker you now offer the public, I should certainly have purchased of you.

J. E. HETHERINGTON.

Borodino, N. Y., May 6, 1878.

I pronounce it decidedly the best *bellows* Smoker made. * * * G. M. DOOLITTLE.

Starkville, N. Y., May 1, 1878.

In excellence of workmanship and material, it far surpasses any other Smoker I have ever examined.

P. H. ELWOOD.

Canajoharie, N. Y., May, 1878.

We are glad to announce, however, that Mr. L. C. Root has improved his Smoker so much that it is decidedly better than any other Smoker.

J. H. NELLIS.

White Plains, N. Y., June 3, 1878.

I found it better than the Bingham, which up to this time is the best I had seen. C. J. QUINBY.

East Saginaw, Mich., June 16, 1878.

You have got up a *good Smoker*. It is a little heavy, but I think that is an advantage, as it will stand up better when you are not using it. I am pleased with the way it is made, and it will last for years with almost any kind of use. O. J. HETHERINGTON.

THE BEST YET.—T. B. Peterson & Brothers, Philadelphia, Pa., are now publishing a new edition of Charles Dickens' novels, which for beauty and cheapness far surpasses any ever before issued. It is called "Petersons' American Edition," printed on fine white paper, from large, clear type, leaded, with some original illustrations as selected by Mr. Dickens and designed by Phiz, Cruikshank, Browne, Maclise and other artists, and bound very gorgeously in red vellum, gold and black, with the cover filled with the author's principal characters, which he has made so world famous. There in one corner is the immortal Pickwick, in another the well known Micawber, the learned Capt. Cuttle, poor little Oliver Twist, the misguided Grandfather, the mean, hypocritical Pecksniff, the mercenary Squeers, Boots, the Beadle, etc., and all of this for the small sum of $1.25. This edition will be found for sale at all book-stores, news stands, and on all railroad trains, or any person sending the publishers $12.00, will receive the first twelve volumes as fast as published, by mail, postage paid, and at this low price every one that is fond of a handsome book ought to subscribe. Address all orders to T. B. Peterson & Brothers, No. 306 Chestnut Street, Philadelphia, Pa.

"MADAME POMPADOUR'S GARTER," is the name of a new, thrilling and historical romance of the reign of Louis the Fifteenth, by Gabrielle De St. Andre, now in press and to be published in a few days by T. B. Peterson & Brothers, Philadelphia. It is a romance of the days of Madame Pompadour, is a story of love, intrigue and facts, and will no doubt prove to be one of the most popular and successful novels that have appeared in print for years, for its pages will be courted and perused by all that are fond of a thoroughly good novel, for its great and absorbing interest. It will be issued in uniform style and price with "Theo," "Kathleen," "Gabrielle," and "Crespigny," published by the same firm.

HENRY GREVILLE'S NEW BOOK, "*Gabrielle; or the House of Maureze*," is in press and will be published in a few days by T. B. Peterson & Brothers, Philadelphia. It is a story of the time of Louis XIV., full, too, of all the splendor of its court, is well told, being pure, fresh, startling and historically true, and is most beautifully translated from the French of Henry Greville, and will prove a treat to all lovers of an exciting, absorbing and sensational novel. It will be issued in uniform style and price with "Theo," "Kathleen," and "Miss Crespigny," published by the same firm.

THE "BOSS" BEE-FEEDER,

Feeds at the front entrance, any time in the day, without danger from robbers; feeds much or little as may be desired; does not gum up, but always gives down; feed can be reached by the bees only from the inside of the hive, and the feeder may be used to diminish the entrance, or to close it entirely; convenient and pleasant to use; every hive should have one.

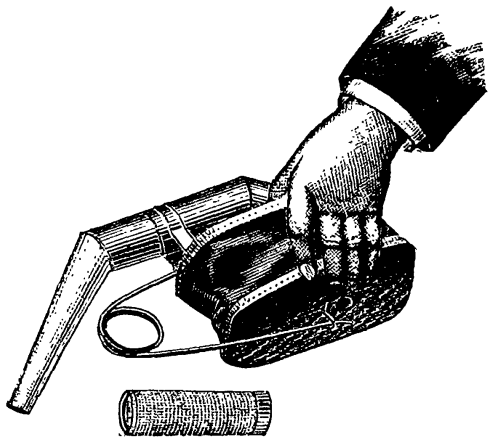
Price 30 cents, by mail.

Manufactured only by

J. M. SHUCK,

DES MOINES, IOWA.

"Excelsior" Bee Smoker.



No one who has ever seen this desirable Smoker would consent to use any other.—It works with slow stroke, and will keep ignited for hours.

Price $1.75, or sent by mail or express, prepaid, for $2.00. Address,

LEVI SUTLIFF,
Charles City, Iowa.

BEE-KEEPERS' SUPPLIES.

Sections in the flat, any size, with or without dovetailing, Bee Hives, Brood and Section Frames, Shipping Cases, Queen Cages. Anything in Bee-Keepers' line, made to order. Sample Boxes, 3 cts., by mail.

M. A. BUELL, Union City, Mich.

McMaster's Composition,

For coating honey barrels. It is far superion to beeswax and equal to paraffine for that purpose, and has been thoroughly tested. It costs but 16 cents per lb. to make it. Novice says: "I am surprised that the compound is so free from taste and smell." Sample sent postpaid for 25 cents. After due deliberation I have concluded not to obtain a patent, but make the following liberal offer to bee-keepers: I will furnish the Compound, delivered on cars, at 20c. per lb., on all orders of 25 lbs. or over, or will send postpaid the formula for manufacturing it for $1, accompanied with the following agreement, signed by the person sending the money:

"I hereby pledge my word and sacred honor, that I will not divulge or make known, in any way, shape or manner, the method of manufacturing or the ingredients composing McMaster's Coating Compound."

[*Signed,*] .....

And after one year's trial, if any person is dissatisfied with results of the Compound, I agree to refund them their money. M. E. McMASTER,

7-tf Palmyra, Mo.

THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XIV. CHICAGO, ILLINOIS, AUGUST, 1878. No. 8.

Contents of this Number.

EDITOR'S TABLE:

Editorial Items.....251 to 259
Honey Knives..... 252
Purity of Queens..... 252
Melipones..... 252
Horse Stung by Bees..... 253
The Sour-Wood Tree (illustrated)..... 253
Ceresin Wax..... 254
A Model Bee-Keeper..... 255
Dead-Letter Office Facts..... 255
The Bee and the Grasshopper..... 256
Smokers—How to Operate them..... 256
The Season in California..... 256
The Excelsior Honey Extractor (illustrated). 257
Bees in Colorado..... 257
Seasonable Hints—August..... 258
Bee Stings a Cure for Rheumatism..... 258
Scovell's Queen Cage..... 259
Shuck's Bee-Feeder..... 259
The Everett Extractor..... 259
Honey and Wax..... 259
A Substantial Basis..... 259
Entrance Regulator..... 259
Kretchmer's Feeder..... 264

MARKETING HONEY:

Sell Direct to Consumers..... 260
How to get Bees out of Honey Boxes..... 260
Increasing Use of Comb Foundation..... 260
New Use for Honey..... 260
To Prevent Honey from Candying..... 260

FOREIGN NOTES:

Italian Bees in Australia..... 269
A Cure for Foul Brood..... 269
Granger Kate Keeping Bees in South Australia 270
Foreign Items Gleaned by Frank Benton..... 270
Artificial Combs..... 270
Stings..... 271
Male and Female Male Bees..... 271
Merited Honors..... 271
Hannemann's Bee Sieve..... 271

CORRESPONDENCE:

Chips from Sweet Home.....261, 286
A Young Man's Experience..... 272
Bright Wax Sheets..... 272
The Standard of Excellence..... 273
Rust's Excelsior Bee Hive Entrance..... 273
Artificial Swarming..... 274
A Plea in Favor of the Italian Bee..... 274
Adulteration of Sweets..... 275
Dadant Against Himself..... 275
Swarming..... 276
California Items..... 277
The Honey Crop.....277, 278
Queen Laying in Boxes..... 277
Extracted Honey..... 277
Comb Foundation..... 277
Bingham's Smoker..... 277
Returning a Swarm..... 277
The Bee Journal..... 278
How to Strain Extracted Honey..... 278
Large vs. Small Frames..... 278
Cyprian Bees..... 278
Italians Reproducing Themselves..... 278
Valentine's Queen Stand (illustrated)..... 278
Returning Queens..... 279
County Bee Association..... 279
The Perfection Honey Box (illustrated)..... 280
The Home of the Cyprian Bee..... 281

OUR LETTER BOX:

Sundry Letters.....282 to 285

SOUTHERN NOTES:

Improvement of the Italian Bee..... 265
Bright Italians vs. Dark..... 265
Are Bees Profitable?..... 266
Bee Pasturage in the South..... 267
Standard of Purity..... 268
What is Honey-Dew?..... 268
Novice and Winder..... 269
Will Queen's Sting?..... 269

BUSINESS MATTERS:

To Correspondents..... 285
Gone..... 285
Bingham's Smoker Corner..... 286
Special Notice..... 291
Quinby's Smoker Column..... 286

Editor's Table.

☞ A gallon of honey weighs about 12 lbs.

☞ In one county in California, a hunter is said to have found or located 30 bee trees in a short space of time.

☞ With all its facilities, the bee never takes a honeymoon. The Queen's "bridal tour" lasts but a few minutes! Her spouse is made happy for the *instant*—but the extatic joy is too much for him, for he instantly expires!

☞ No disease is more fatal to bee-keeping interests than that most dreaded of all diseases, foul brood. It does not seem to be confined to any particular locality, but shows its destructive form wherever bees exist, to a greater or less extent, both in Europe and America. Science has failed, as yet, to discover its origin, or a certain and positive remedy. Some experiments are now being made that we hope will throw some light upon it in a scientific way.

MELIPONES.—Few of our readers probably ever heard of an insect by the above name, but the London *Gardener's Chronicle* tells us that the hymenopterous insects known as Melipones, and found in various parts of the world, resemble bees very closely, but are without any sting. Their honey-producing qualities are very decided. Resembling bees in their general character, they are smaller, with a more densely clothed body and the hind feet proportionally longer. As in the honey bees, there are three varieties of individuals—the males, females, and neuters. Some of them make their nests in hollow trees, while others suspend them from the branches. The honey of these insects is said to be of superior quality.

☞ The National Convention of Bee-Keepers will be held in New York City on the 2d Tuesday in October. Let all who can make their arrangements to be present. The editor of the BEE JOURNAL intends to be present. Full arrangements will be published in next JOURNAL.

HONEY KNIVES.—A little more than a year ago Bingham offered to bee-keepers the first and original direct-draft smoker. That has revolutionized smokers; and, strange to say, no one has been able to improve upon it. He now comes to the front brandishing a new and original honey knife, bearing this inscription: "Cast steel, Bingham & Hetherington. Patent applied for." Should these knives prove as original and valuable as the smoker, bee-keepers will recognize their benefactors. These knives come to us under very propitious circumstances. The fact that they are made by two of the most ingenius bee-keepers of Michigan is of itself a guarantee.

Mr. O. J. Hetherington is an extensive bee-keeper, perhaps the largest in the State, and a brother of Capt. E. J. Hetherington, of Cherry Valley, N. Y. Mr. Bingham you all know as the smoker inventor. See advertisement in another column.

☞ In many places basswood is a failure this year, we learn as we go to press. In such places the season cannot be first-class. We hope it has not been general.

☞ The extreme hot weather during last month killed about 200 queens in the cells, just before they were ready to hatch, for friend H. Alley. Others, no doubt, suffered like losses all over the country.

☞ There will be a meeting of the Kansas State Bee-Keepers' Association in Lawrence, Sept. 4th, at 1 o'clock p. m. All bee-keepers are invited, and the editor of the JOURNAL especially. Advantages of reduced fare on railroads to the National Temperance Convention that will be held here at that time, will enable Kansas bee-keepers to attend for one cent per mile.

O. BADDERS, *Sec.* N. CAMERON, *Pres.*

[Thanks for kind invitation. A previous engagement will prevent our attendance at that time.—ED.]

☞ D. D. Palmer advertises glass for honey boxes in this issue. Those wanting such will do well to correspond with him.

☞ Any one desiring to purchase a good apiary, with all its appurtenances, in a first-class location, can obtain valuable information concerning it at this office. The owner desires to retire from the business for the present.

PURITY OF QUEENS.—In demanding that we now settle upon a "standard of purity" for Italian Queens, we inadvertantly stirred up a hornet's nest. In a private letter, a correspondent remarks as follows:

"The queens that are now imported are hybrids. A pure queen has a mark that establishes her purity beyond a doubt. She has three plain and distinct crowns stamped upon her abdomen. That was the kind that Mr. Parsons and others imported in the early day, but they now arrive without crowns and are called by the knowing ones, *pure!*"

There is, then, all the more reason in now deciding upon a standard of purity, "crowning" her Italian Majesty with the *true* emblems of her royal purity!! Let the discussion be exhaustive!

☞ The *Western Agriculturist*, Quincy, Ill., comes to us this month with a handsomely engraved new title page, which, with the other improvements added this year, makes it the Champion Journal for improvements and progress, being the Oldest and Best Established Monthly in the West, well edited and handsomely illustrated. It is a desirable Journal for every Western Farmer. The price is still $1.10.

☞ The Eggleston Truss, which will be found advertised in our columns, presents some features which is well worth the attention of all afflicted with Hernia. This truss is meeting with great success and its manufacturer reports large sales.

The Sour-wood Tree.

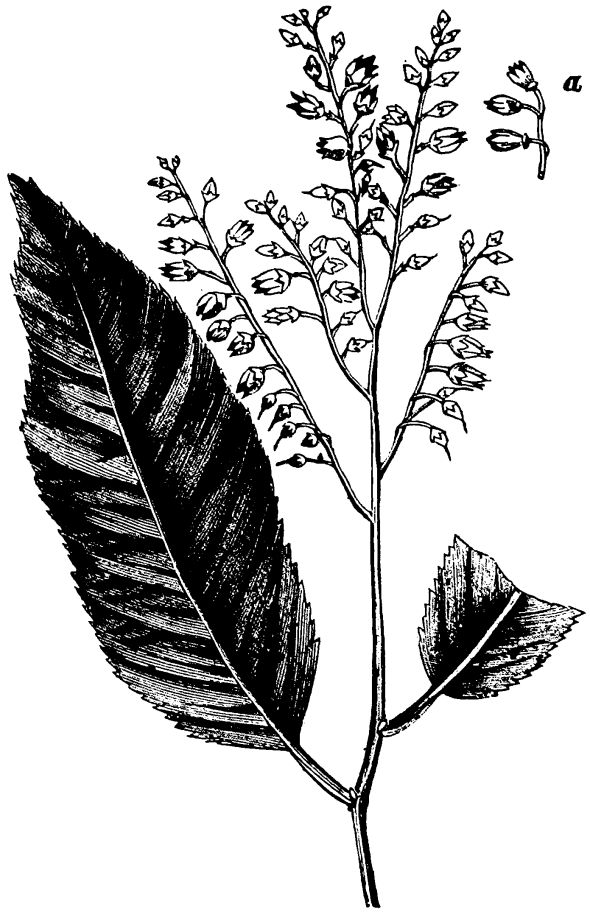
DEAR EDITOR: Being acquainted with "sour-wood" honey, and, after extensive observation, believing it to be the finest honey plant in my knowledge both as to the *quantity of yield*, the *flavor*, and also as to *beauty of appearance*, I would ask if you cannot furnish a cut of the blossom in your JOURNAL?

JAMES W. SHEARER.

Liberty Corner, N. J.

The sorrel tree (*Oxydendrum arboreum*), so called because of the acidity of the leaves, is a native of the South, but has been grown even as far north as New York. It often attains no mean dimensions in its native home along the Alleghanies, often reaching upward more than 50 feet, and acquiring a diameter of 12 or 15 inches.

The flowers are arranged in racemes, are white, and with the beautiful foliage make an ornamental tree of high rank. The bark is rough, and the wood so soft as to be worthless, either as fuel or for use in the arts. As a honey tree, it is very highly esteemed; in fact, it is the linden of the South. A. J. COOK.



LEAF AND BLOOM OF THE SOUR-WOOD TREE.

A HORSE STUNG BY BEES.—We saw, a few days since, a horse that had been most fearfully stung by bees. His head was swollen to an enormous size, large enough for 2 or 3 heads. It was caused by bringing the animal in contact with the current of bees that were passing to and from their work. The animal obstructed their passage, which so enraged the little creatures that they attacked him, and when one stung, others smelt the virus and immediately a light-brigade-charge was made. Too much care cannot be exercised in keeping stock out of the current of workers; otherwise bees seldom attack stock, unless in some way disturbed or angered. Turpentine is a good remedy for the sting.—*Los Angeles Star.*

Ceresin Wax.

EDITOR JOURNAL :—Will you please inform us through the JOURNAL what Ceresin wax is, and its uses? Should it be used in making comb foundation?
J. L. JONES.

Ceresin wax is the name of the purified product obtained from ozocerite, an impure fossil wax, found chiefly near the large coal beds of Dwhobriz and Boryslow, in Galicia, and Gresten, in Austria. The crude substance, freed from the sand, clay and other earthly impurities, is of a deep brown color with greenish tint, and has a spec. gr. of 0,940—0,970, exhales a benzine-like odor, and in hardness, fracture and pliability entirely resembles beeswax. It is very combustible, with difficulty solvable in oil of turpentine. It is purified and bleached by means of Nordhausen's sulphuric acid, and in its purest form is used principally as a substitute for beeswax by manufacturers of candles, wax flowers, polishing pomades, cloth finishers, laundrymen, etc.

Considerable quantities have already been imported to this country, and some of our friends have, no doubt, made its acquaintance unknowingly, for it has such a surprising resemblance to beeswax that it is used even for pharmaceutical purposes. We are told that it not only retards, but entirely prevents rancidity in ointments.—The melting proof is higher than the beeswax.

As to its use in the manufacture of comb foundation, there can be no toleration even for the thought. The one who first used it soon abandoned it in disgust, having paid dearly for his folly. Comb foundation should be made of pure beeswax, and that only. Bees usually refuse to accept of ceresin wax, and only when *compelled*, for want of room, will they use it in any case.

We do not believe now that there is any one of our heavy manufacturers of comb foundation that uses anything but the pure wax.

We had an amusing incident a little while ago, on this wise :

A man, living about 500 miles from Chicago, ordered 20 lbs. of comb foundation of us, which we sent in due time. In about 2 weeks, he wrote to us that it was impure—that his bees would not accept it—that they had torn it down and were gnawing it up, &c., &c., and wanted us to send more, of another make, at once. We replied that it was not impure ; but, to satisfy him, we sent 20 lbs. more, of another make, and had him return the first lot. When it came back, we immediately put it into our own hives, to see what our bees would do with it. To subject it to the best test, we gave it to queenless colonies, and in 24 hours they had it built out to half-length cells ; inside of a week it was completely built out and filled with nice, white clover honey.

One piece of that returned, which was doubled up, and out of shape, generally, we partially straightened out, and placed into one of our hives, in the presence of 4 or 5 persons to whom we explained the reason for so doing.—This was, like the rest, accepted *at once*, and is now full of honey ! Several other pieces is now on our desk as it came back from the purchaser, with the cells partly built out—proving conclusively that his bees also accepted it, and had commenced work on it. Evidently they were well pleased with it, and gathering so multitudinously upon it, that being fastened insecurely, it gave way, dropping down to the bottom of the hives. Then in order to get rid of it, he found the bees busy gnawing it to pieces, and carrying it out of their hives. This, we think, is the whole explanation—and though it cost us several dollars to verify our suspicions of the cause, still, we think it money well spent. The one who purchased it blamed both us and the bees wrongfully, but fortunately we are able to vindicate both.

It will not always do to conclude too hastily that foundation is made of impure wax—the trouble is sometimes

caused by poor workmanship on the part of the bee-keeper. As before stated, we do not believe any manufacturer of comb foundation is now using anything in it but pure wax.

☞ A correspondent says he has sent money to Tremontani, in Italy, last April, for queens, and gets no answer, and wants to know if that is his way of doing business. So far as our experience goes, *it is*. We sent him money by draft on Paris, in March, and still get no queens from him. We have had to procure them elsewhere, after having paid him for them. We learn from several dealers in imported queens that he has served them in a similar manner this season. He seems to have no conception of how business should be transacted. He will *probably* send the queens when he gets nothing else to think about. We intend to have nothing more to do with him. We learn that A. J. King, P. L. Viallon, and others, have come to the same conclusion. We would not have had the trouble he has caused us this season, for all the queens he could send us in a year. All should be cautious about dealing with him.

A MODEL BEE-KEEPER.—The editor of the Des Arc (Arkansas) *Citizen*, has given us his views of apiculture in that State in the following language, which appeared in his paper on the 9th ult:

"We had the pleasure of looking through Dr. Hipolite's apiary last week, at DeVall's Bluff, and was forced to come to the conclusion that he was the model bee-keeper of Arkansas. Everything connected with his apiary is kept in the neatest order possible, and no man can be more perfectly at home with his bees. We would like to see bee-culture more general in Prairie county, and to that end we suggest that a bee-keepers' association be formed in this county. Prairie is far ahead of the rest of the State in bee-keeping, and should be the first to organize such an association. Let us hear from the bee-keepers of Prairie on this subject."

In 1875 we took a trip down through that State, and noticing the many advantages it presents for the successful management of bees, we wondered why it was so far behind in modern appliances and apicultural progress. By all means let there be an association formed—and let Dr. H. be the *light* thereof.

☞ Friend E. C. Jordan, of Jordan's Springs, Va., is a famous cultivator of vegetables as well as a passionate lover of the bee. He also keeps an excellent hotel at the celebrated White Sulphur Springs, as we notice by the papers in that locality. The "heated season" of the past month makes us wish we *could* accept friend Jordan's generous invitation to us to go and stay awhile at his "cool retreat;" but alas a rush of business that keeps us "red hot" all the time, forbids us from even *thinking* of such "a heavenly rest." Thanks, friend J., for the "cool intent." We must be contented with being "present in spirit" with you, while being "absent in body." Selah.

Dead Letter Office Facts.

We have often referred to the necessity for more care being exercised in addressing letters to this office—particularly in the matter of addressing the letter, stamping it, and in giving very plainly the name of the writer, and the post office address in full. That there is a necessity for this let the following facts demonstrate:

There are 4,000,000 dead letters received yearly at the dead letter office.
Three hundred thousand without stamps.
Fifty thousand, partially addressed.
Six thousand, no address.
Forty thousand dollars in money, nine-tenths of which is returned, the balance remaining in the treasury, subject to application, for four years.
One and a half million of money orders and drafts of money value.
Forty-five thousand packages containing property.
Fifteen thousand photographs.
Quarter of a million of European letters are returned unopened.
One-tenth of all the letters received contain property.

☞ An Iowa exchange says that a farm hand in that State, actuated by curiosity, tipped up a bee hive in order to find out what the bees were doing. He knows now. They were making chain-lightning, and lots of it.

The Bee and the Grasshopper.

A honey-bee, yellow as gold,
Sat perched on a white clover top,
When a grasshopper, wiry and old,
Came along with a skip and a hop.
"Good-morrow!" cried he, "Mrs. Honey-Bee,
You seem to have come to a stop."

"We people that work,"
Said the bee, with a jerk,
"Find a benefit sometimes in stopping;
Only insects like you,
Who have nothing to do,
Can keep up a perpetual hopping."

The grasshopper paused on his way,
And thoughtfully hunched up his knees;
"Why trouble, this sunshiny day,"
Quoth he, "with reflections like these?
I follow the trade for which I was made;
We can't all be wise honey-bees.

"There's a time to be sad,
And a time to be glad;
A time both for working and stopping;
For men to make money,
For you to store honey,
And for me to do nothing but hopping."

Smokers—How to Operate Them.

Please give directions for operating Bee Smokers successfully? Materials to be used and how best to ignite them?

X. Y. Z.

In order to do this, we must give directions for operating each kind of smokers, viz:

FOR BINGHAM SMOKER.—Select maple, or hickory which is sound and dry, and saw it into blocks 4 inches long; split these blocks into pieces ¼ inch square, and keep them in a dry place for use. If it burns too fast, mix some coarser with it. To start a fire with such wood, a few good coals dropped into the bottom before filling with wood will answer; but, as a rule, a few shavings and chips of punk, or rotten wood, started with a match and dropped into the bottom before filling with wood will be found best. Once started with such wood, and refilled occasionally, a fire may be kept continually burning and ready for use. If smoke is wanted only for a few moments, any dry rotten wood will answer, but such as is found in the *heart* of an old *hard wood* tree will be found best.

TO BURN TOBACCO.—Start the fire as above, and put in a layer of small, square, or broken pieces of rotten wood, then a layer of tobacco, then rotten wood, &c.

FOR NEW QUINBY SMOKER.—Make the smoke of any kind of wood that is sufficiently decayed to burn readily, or if perfectly dry, solid hard wood may be used, split in pieces ¼ inch square, and 5 inches long. To start the smoke, take off the tapering nozzle, light a piece of decayed wood, and put the burning end into the tube first, or drop in a coal of fire, and place the wood upon it. Replace the nozzle; work the bellows with one hand, directing the smoke to the point desired.

FOR EXCELSIOR BEE SMOKER.—Light the smallest end of the cartridge with a match, a cigar, or at the stove, and put the fire end in first; blow a little to get the fire started before you put on the nozzle. Then take it in the left hand, in the middle where it will balance; place the ball of the left thumb in the thumb hole, and hold it down a little sidewise. You can now use your right hand for anything else. When you open a hive, first pry up the board with your knife and give them a little smoke before you let the bees out; this keeps them from taking wing when you open it.

Cotton rags, or cotton filling out of an old, worn out comforter, is the best, cheapest and handiest fuel, as it burns so slow.—Tear or cut the rags up before using.

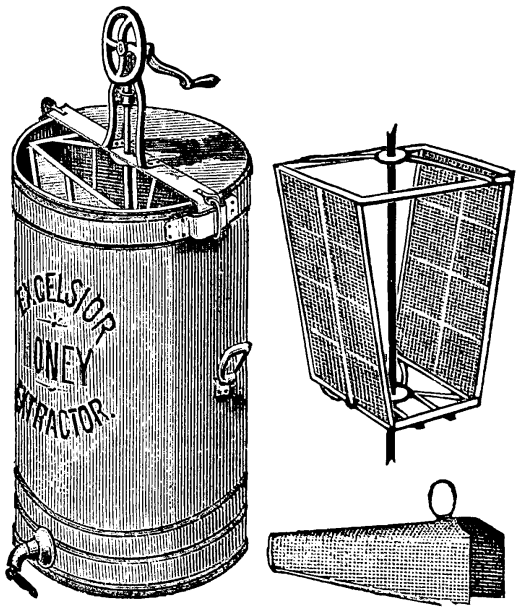
The Season in California.

The San Diego *News*, in speaking of the honey season, says: "Along the coast the season for honey-making is pretty much over, the flowers being nearly closed out. Higher up in the country it is a little different, and in the mountains in some places the season but now fairly opens. In the towns the bees are hard at work on the trees that yield flowers, and on a small yellow shrub that can be found almost anywhere. The honey is very fine, white and pure, and ought to sell for a fine price."

The Los Angeles *Star* remarks:—"We saw in front of Bassett & Co's. a large number of cans filled with honey, ready for shipment. They belonged to E. E. Shattuck, who has 2 bee ranches in this vicinity. We understand that Mr. Shattuck has 20,000 lbs. of honey now ready for shipment. He expects to be able to ship 40,000 lbs. during the season. There are quite a number of apiaries which will yield handsomely. The honey is excellent, but the quantity will be much below the yield of two years ago. This is because many of the bees died during the drouth of last year, and those that are left have not had a good working season. The damp, foggy spring has been a considerable drawback to the bees. But this disadvantage will be partially counteracted by a prolonged season."

The "Excelsior" Honey Extractor.

Here is another candidate for public favor, and one that has many things to commend it. It possesses all the advantages of neatness, durability, and ease of operation, as well as that of thoroughly and quickly emptying the combs of honey! It takes any size frame smaller than 12x20.—It is made entirely of metal, and we think it has advantages that make it the best Honey Extracting Machine in the market. It is light, but has attachments for fastening down to a box or platform, rendering it steady and permanent in position, and is exceedingly easy of operation. It can be instantly taken to pieces for cleaning,



having no screws to take out, nor cumbersome and heavy pieces to lift.

Some of its advantages are as follows:

The lower end of the comb basket shaft does *not* revolve in the honey below, even when 60 or 70 lbs. may be there! It has a "strainer," elevated some 3 inches above the bottom of the Extractor, and entirely covering the canal leading to the faucet or honey gate; therefore, when drawn off, the honey is clear and free from bits of comb or other undesirable particles. This "strainer" can be instantly removed, cleaned and replaced.

A strong gearing, with an over-motion, is essential to both *ease* of operation and effective work. By it, the motion can be controlled, so as not to throw out the brood, when extracting. The two covers close the machine up tightly, and thus prevent the bees from annoying the operator, as well as to keep it free from dust, when not in use. The handles are strong, and attached near the centre, for ease of carrying. It is provided with a small comb holder for extracting pieces of comb or partly-filled boxes or sections. The honey receptacle has capacity for 60 or 70 lbs. of honey, where it may be allowed to ripen before drawing off, if desired.

Some of these advantages may be found in other extractors; but none, we think, will put in a claim to them all. The one providing for the revolving of the comb without lubricating in the honey is quite important. For the advantages presented it is exceedingly *cheap*, and it is thoroughly practical. It may be obtained at this office.

Bees in Colorado.

In an exchange, J. S. Flory says: "For years before we came to Colorado we were more or less engaged in the business of keeping bees, both for pleasure and profit. On our arrival here, owing to the long seasons of dry weather to which Colorado is subject, and the absence of honey producing forests, we made up our minds this one pursuit, in which we found so much to admire, would have to be given up. But of late our views upon the subject have become much more modified. We have seen very nice honey in our market for sale, which was gathered by the busy bees here in our midst, and learn from some of your correspondents that others are making the keeping of bees a success. I now look forward with interest and a longing desire to the time when I hope to hear the pleasant hum of swarming bees around my home. As a business of healthful, out-door exercise, and, we may say, recreation from study, we know of no other pursuit so well adapted to both men and women as the keeping of bees. Apiarian science is by no means a dry study. It opens up a field broad and pleasant, and, when mingled in practically, is a thing to be loved and enjoyed. If Colorado 'hath sweets that perish in the desert air,' for the want of willing bees to gather them, let us import and raise an army (that will not be consumers of government rations) that will add more wealth to our resources; workers that will produce for our tables one of the most healthy luxuries known in the world. We have the milk; now if we can have the honey, let us have it that indeed we may have a land like unto ancient Canaan—'flowing with milk and honey.'"

Seasonable Hints—August.

White clover having yielded abundantly in nearly every locality, and basswood being now past its prime, the summer season for storing surplus honey will soon be over, till buckwheat comes in. Between the yield of basswood and buckwheat, if the surplus has been taken largely, it may be necessary to feed some; all should know how their bees are doing, keeping a close watch. All impotent queens should be superseded, so that the colonies may be kept strong to gather the fall crop of honey. Queenless colonies should be given queens or frames of brood, if they have none, in order to raise a queen. If the brood chamber is full of honey, it should be removed from a few of the central frames with the extractor, in order to give the queen room for brood. The opening of hives and the removal of surplus honey should be done at night, in the early morn, or on a cool day.

Surplus honey should be kept in a cool dry place. Examine the boxes and sections occasionally; and if any moth worms are found, remove and destroy them. Extracted honey may be kept in barrels, wooden vats or tins; the barrels or vats should be coated with wax to prevent leakage.

Care should be taken not to expose the honey, to start robbing. The entrance to weak colonies should be contracted, to enable them to defend themselves from robbers.

By the last of August buckwheat will have come in; boxes partly filled should be removed and extracted before that, so as not to have the honey mixed.

During August and September the bees will be more irritable than usual, and all who are nervous or timid should provide themselves with a good smoker and veil, if they find such necessary. These will steady the nerves and enable even the most timid to control their bees at all times, and make the necessary examinations with confidence.

In handling them let the novice be careful to avoid jars, working quietly and steadily, always keeping perfectly cool. Should a sting be given, remove it, squeeze out the poison, and apply honey, soap, hartshorn, essence of peppermint or even a little mud.

BEE STINGS, A CURE FOR RHEUMATISM.—Our friend Chandler, to whose skill and good taste so many fine engravings have been produced in the BEE JOURNAL and in Cook's New Manual, had been for weeks laid up with rheumatism. Last year we had sold him a colony of Italian bees, and he now has six colonies from that one. A few days ago we saw him get off the street car, opposite our office, and we expressed our supprise at seeing him out, as we knew he had not been able to be at his office for weeks. He informed us that, as the bees were swarming, he managed to hobble out of doors and tried to hive them. Rheumatism preventing any scientific work, he received several stings in his disabled rheumatic arm. It then swelled up; and after caring for the bees he went again to his bed and slept. On awaking, he was surprised to find that the rheumatism had disappeared, and he has not had it since!—He is now a firm believer in bee stings!!

☞ The increase of the products of the apiary, of late, have caused some to fear a glutted market. Instead of this, the demand is still in advance of the supply. The export of honey to Europe has made the article scarcer at home than it has been for years. It can now be shipped to any part of the world as easily as any other article of commerce. The Shipment of comb honey sent to Bordeaux last season has been satisfactorily disposed of. Thus, at least, we bid fair to turn the tide of gold which flows to Bordeaux from this country in return for the shipments of wine and raisins which they make to us.

☞ A new kind of feed for bees in transit cages has been brought to notice by friend Alley. It works well, the bees living for some two weeks on it while encaged. He is testing it further, and when it has stood the utmost test it will be brought before bee-keepers in a public way. We had a sample cage on our desk, with the bees as lively as one could wish, after being therein 14 days.

SCOVELL'S QUEEN CAGES.—Friend Scovell writes that his cages are just the thing for Introducing Queen Cells as well as Shipping Queens. He gives the following as the *modus operandi:*

"Trim the cell pretty close, take it by the small end and dip it into melted wax, and put into the bottom of the cage; put the cage, without its lid, bottom up, over an opening between the frames; cover with cloth and the cell is introduced. It can be examined at any time by raising the cloth and picking up the cage."

Friend Scovell says he introduced 25 Queen Cells in that way in one week, without the loss of a single Cell.

SHUCK'S BEE FEEDER.—We have received one of these Feeders for our Museum. It is designed to be used at the entrance of the hive; the entrance can be contracted or wholly closed with it, unless the entrance is too large for it. When the Feeder is in place at the hive entrance, the food, prepared from coffee A or C sugar, by dissolving it in boiling water, may be poured in as often as necessary. As the Feeder fits close to the hive, no bees can reach it from the outside. It is an ingenious contrivance and withal very cheap.

☞As we must report on the Cyprian queen which was to be sent us from H. Haines, we will say that he has sent us four queens—three came *dead*, and the one that came alive was an Italian. Mr. H. explained that his hired man sent it by mistake. One of those received dead was sent by mail, and two by express. *Experimentum crucis. Je vous remercie.*

THE EVERETT EXTRACTOR.—Friend Everett has sent one of his Extractors for 4 frames to our Museum. It is nicely painted and looks really beautiful. The only criticism we should offer is that the gearing hardly gives power enough for a 4-frame extractor. Friend Everett was the first to get up the small comb holder for extracting honey from small pieces and partly filled sections, and well deserves the credit, for it is a very convenient arrangement.

HONEY AND WAX.—We will take Honey and Wax in exchange for Implements for the Apiary, to any amount, at the usual market prices of both.

A Substantial Basis.

The San Francisco *Bulletin* remarks as follows concerning the cause of last year's failure of the honey crop in California:

"In several of the past years the yield of honey was so great that the production was far in excess of the requirements of the local markets, which were consequently overstocked. The quantity shipped from the State was wholly inadequate to prevent extremely low prices prevailing at home. This was notably the case at the close of the season before last, when the yield was not short of 3,000,000 pounds. Many apiarists, with a short-sighted eagerness for profit, then drew so largely on the honey in their hives as to leave an inadequate amount remaining for the support of their colonies during the next season, which unfortunately proved a dry one. The loss of bees in consequence during the last season was immense; over 18,000 colonies being destroyed, it is estimated, in Los Angeles county alone."

The *Bulletin* adds: "The business has now passed that experimental stage in which our industries are too often followed merely for temporary gains and quick profits, and the present efforts to place it upon a substantial basis bid fair to be attended with that permanent success which always inures to perseverance and systematic management."

These "thoughts," first "breathed" by the *Bulletin*, become to every scientific apiarist really "words that burn!" A "substantial basis"—"permanent success!" These are the watchwords—the things to be earnestly sought after, and as the *Bulletin* sagely remarks, "always inures to perseverance and systematic management!"

ENTRANCE REGULATOR.—Friend Albert D. Rust, of Fort Worth, Texas, has sent us one of his Entrance Regulators. It is intended to place it at the entrance of the hive, making it instantly any size desired. It is to be hung just far enough above the entrance to let it swing up, and when turned down just to fit, and must always be adjusted when up. It consists of 2 pieces of zinc with square holes cut in the lower side of each; when by pushing in or drawing out one of them, the holes not being opposite each other are closed or opened at pleasure.

☞Some time since friend Davis, of Wolf Lake, Ind., sent us drawings of his Queen Dial, and other apiarian appliances used by him in his apiary. He has our thanks. The Dial, particularly, is a useful article.

Marketing Honey.

This department will be devoted to items of interest concerning Packing, Selling and Shipping Honey and Beeswax.

Marketing Honey.

The best method of marketing honey, both comb and extracted, is to sell direct to the consumer or retail dealer, and not to send to honey dealers. One of our correspondents gives his experience in selling honey as follows:

"Last year I put half a barrel of extracted and about 50 pounds of comb honey into my spring wagon, and went among the consumers and sold to them at 12½ to 15 cts. per pound for extracted, and 25 cts. for comb honey; and in a short time I sold all my extracted honey, and could have sold as much more. Those who got but a few pounds of me last season now want more and in larger quantities. I do not think I can half supply the demand I have created in this locality. Last season I sold 4,000 lbs. of honey, but that will not suffice for this season."

If the producer would take a little time and trouble to furnish the consumer with genuine honey at a moderate price, and thus get a market established, he would be surprised at the amount he could sell. Try it. Last season we commenced to sell honey from our office, and now the call for it is vastly increased. So far we have not been able to get it fast enough to supply the call.

☞ England, we learn, has had a very wet season. Many of the crops have been injured thereby, particularly the wheat. The call upon the United States for breadstuffs will be quite large in consequence. The season for bees and honey has also been, thus far rather discouraging. Mr. Hoge, who has been in Europe for several months looking after the noney interests, is expected home this month, and then we hope to learn more particulars concerning the honey crop, and the exporting prospects.

TO GET BEES OUT OF HONEY BOXES.—E. W. Darling inquires how to get the bees out of honey boxes. Place the boxes bottom upwards on the cap of the hive from which the boxes were taken; placing an empty box on the top of each one. The bees will go up into the empty box and cluster. They may then be shaken down in front of the hives they belong to.

INCREASING.—The extensive use of beeswax for comb foundation has made that article very scarce. We have purchased some 1,500 pounds during the month of July, and want more. It is said that the annual product of wax in the United States is 20,000,000 of pounds, and it is increasing very fast.

The production of honey, too, has doubled within the past few years. Let us then ask a very serious question of those who delight in looking at the dark side. It is this: As last year's honey has been out of the market for at least 3 months—has not the *demand* very sensibly *increased?* True, prices are lower—but think of the "*ready sale*" and increasing supply and demand. Every article that achieves that much-coveted POPULAR DEMAND reaches lower prices, but with the "ready sale for cash," producers make more than with a slow sale and higher figures. Oh! "Let us have peace!"

NEW USE FOR HONEY.—The California Honey Balsam, for coughs, colds, sore throats, and lung diseases, is fast rising in popularity among the afflicted; so much so that it has become necessary to extend its manufacture. For this purpose a company has been organized to manufacture it as well as the Honey Lozenge. The Los Angeles *Herald* remarks that "it will not be long until this new enterprise will contribute to the demand for honey. These new uses of honey must be to the interest of apicultural pursuits."

☞ To prevent honey from candying after being taken from the comb, put it into a kettle and over the fire; boil it gently, and as the skum rises skim it off until it becomes clear, when it can be turned into the vessel you wish to keep it in, where it will keep clear and fresh without candying.

Chips from Sweet Home.

It is said "variety is the spice of life," also, "change is rest." In 1876, we purchased Zell's Encyclopedia, and among the first things we referred to was the bee. We found in it so many things that were interesting that we concluded to correct and give it to the readers of the AMERICAN BEE JOURNAL. We wrote the editors of Zell's Encyclopedia, and received the following answer:

D. D. PALMER :—Your favor of the 8th inst. is at hand. We will be very thankful to accept your kind offer to correct the article on bees. We cannot say where the editor procured his information, but presume from works that were considered standard on the subject, which, as you know, are to practical bee men very unreliable. We are yours,

Very truly, T. ELWOOD ZELL, DAVIS & CO.

I accordingly give the following article from Zell's Encyclopedia, and follow it with my corrections as foot notes :

BEE, *n.* [A. S. *beo*, probably from *buan*, *byan*, to inhabit, to dwell ; Du. *bye* ; Lat. *apis* ; Fr. *abeille.*] (*Zool.*) The generic name of a family of Hymenopterous insects, for the classification of which, see APIDÆ.

Of all the insect tribe, none have more justly excited the attention and admiration of mankind than the bee ; and yet, although it has engaged the study of naturalists for two thousand years, we still occasionally find, in the economy of this social and industrious little animal, some obscurely known or unelucidated fact, which is thought worthy of the labors of those who devote their time and abilities to the pursuit and advancement of this interesting branch of natural science.

The most important species is the honey bee, or hive bee, *Apis mellifica*, so long celebrated for its wonderful polity, the neatness and precision with which it constructs its cells, and the diligence with which it provides during the warmth of summer a supply of food for the support of the hive during the rigors of the succeeding winter. In its natural state, the honey bee generally constructs its nests in hollow trees ; but so universally is it now domesticated that we rarely find it otherwise than hived in our country, where they have been probably imported early from Europe.

Honey and wax are the two valuable articles of commerce, for which we are indebted to this useful insect.

Now, if we examine the structure of the common bee, the first remarkable part which presents itself is the proboscis, (*Fig.* 331,) an instrument serving to extract honey from flowers ; it is not formed like that of other flies, in the shape of a tube by which the fluid is to be sucked up, but rather like a tongue, to lap it up. When thus lapped out of the nectary, it is conveyed to the crop or honey-bag, where it undergoes but little alteration, and is then transferred or disgorged into cells destined to receive it.

While the bee is busy in extracting the sweets of the flowers, it becomes covered with the *farina* or pollen of the anthers ; this pollen it wipes off with the brushes of its legs, collects every particle together, and kneads it into two little masses, which it lodges on the broad surface of the tibia of each hind leg, where a series of elastic hairs over-arches a concavity, and acts as a sort of lid or covering, (*d*, *Fig.* 331.) Thus employed, the bee flies from flower to flower, increasing its store of honey, and adding to its stock of kneaded pollen, which is called *bee-bread.*

The abdomen is divided into 6 annulations or rings, which are capable of being contracted or extended at pleasure ; and the insect is internally furnished with a honey-bag. a venom-bag, and a sting. The honey-bag, which is as transparent as crystal, contains the honey which the bee has lapped from the flowers, the greatest part of which is carried to the hive, and poured into the cells of the honeycomb, while the remainder serves for the bee's own nourishment.

Wax is a peculiar secretion in little cells beneath the scales of the abdomen. It is from honey that the wax, by some internal process is elaborated. The wax oozes out between the abdominal rings, in the form of little laminæ ; it is then worked with the mouth, and kneaded with saliva, that it may acquire the requisite degree of ductility for the construction of the comb, which is finished with a substance called *propolis*, a glutinous or gummy resinous matter procured from the buds of certain trees.

The *sting* is composed of 3 parts ; namely, the sheath, and two extremely small and penetrating darts, each of which is furnished with several points, or barbs, which, rankling in the wound, render the sting more painful. This instrument, however, would prove but a feeble weapon, if the bee did not poison the wound. The sharp-pointed sheath first enters, and this being followed by the barbed darts, the venemous fluid is speedily injected. Sometimes the sheath sticks fast in the flesh, and is left behind ; but the death of the bee invariably follows. (1.)

Having examined the bee singly, we now proceed to an inquiry into its habits as a member of a social community. Viewed in this light, we behold an animal active, vigilant, laborious, and disinterested ; subject to regulations, and perfectly submissive. All its provisions are laid up for the community ; and all its arts are employed in building a cell, designed for the benefit of posterity.

A beehive contains 3 kinds of individuals, —a queen, drones and workers ; the queen is a female, and not only the ruler, but in great part the mother of the community.—(2.) The drones are males, and the workers are abortive females.

The sole office of the queen appears to be the laying of eggs ; and this occupies her almost incessantly, as a single one only is deposited in each cell, thus causing her to be in continual motion ; she is slow and majestic in her movements, and differs from the workers in being larger, having a longer body, shorter wings, and a curved sting. The queen is accompanied by a guard of 12 workers, an office which is taken

in turn, but never intermitted ; in whatever direction she wishes to travel, these guards clear the way before her, always with the utmost courtesy turning their faces towards her ; and when she rests from her labors, approaching her with humility, licking her face, mouth, and eyes, and appearing to fondle her with their antennæ. (3.)

The drones are all males ; they are smaller than the queen, but larger than the workers ; they live on the *honey of flowers*, but bring none home, and are wholly useless, except as being the fathers of the future progeny ; when this object is accomplished, they are destroyed by the workers. (4.)

A buzzing commences in the hive, the drones and the workers sally forth together, grapple each other in the air, hug and scuffle for a minute, during which operation the stings of the workers are plunged into the sides of the drones, who, overpowered by the poison, almost instantly die. (5.)

The workers are the smallest bees in the hive, and by far the most numerous ; they have a longer lip for sucking honey than either of the others ; their thighs are furnished with a brush for the reception of the pollen of flowers, and their sting is straight. The workers do the entire work of the community ; they build the cells, guard the hive and the queen, collect and store the honey, elaborate the wax, feed the young, kill the drones, &c. The average number of these 3 kinds of bees in a hive is, 1 queen, 2,000 drones, and 20,000 workers. The eggs are long, slightly curved, and of a bluish color ; when laid, they are covered with a glutinous matter, which instantly dries, attaching them to the bottom of the cell.

For 11 months the queen lays only workers' eggs ; afterwards, those which produce drones ; as soon as this change has taken place, the workers begin to construct royal cells, in which, without discontinuing to lay drones' eggs, the queen deposits here and there, about once in 3 days, an egg which is destined to produce a queen. (6.)

The workers' eggs hatch in a few days, and produce little white maggots, which immediately open their mouths to be fed ; these the workers attend to with untiring assiduity ; in 6 days each maggot fills up its cell ; it is then roofed in by the workers, spins a silken cocoon, and becomes a chrysalis ; and on the 21st day it comes forth a perfect bee. The drones emerge on the 25th day, and the queens on the 16th.

When the queen bee has an inclination to deposit her eggs, she goes forth, accompanied by 6 or 8 working bees as a guard, whose stomachs are filled with honey. She is very deliberate in her motions, and seems to proceed with great caution. She first looks into a cell, and if she finds it perfectly empty, she draws up her body, inserts her abdomen into the cell and deposits an egg. In this way she slowly proceeds till she has dropped 10 or 12 eggs, when perhaps feeling exhausted, she is fed by one of the attendant bees, who have surrounded her all the time. This is done by the bee ejecting the honey from its stomach into the mouth of the queen. When this has been done, the bee goes away and another takes its place. The operation of laying her eggs again goes on, and is succeeded by the same mode of feeding, the attendant bees frequently touching the antennæ of the queen with their own.

When the operation of laying the eggs is completed—and it generally occupies some time—the queen retires to that part of the hive which is most filled with bees.—During her progress, the surface of the comb is very little intruded upon, and the space seems purposely to be left unoccupied. Some few of the cells, however, in a brood-comb, are passed over by the queen, and afterwards filled either with honey or farina. These serve as deposits of food, from which the neighboring brood may be fed more readily, as such cells are never covered with wax.

It has been already stated, that the queen, for nearly a year, lays no eggs that are destined to produce queens. (7.) It therefore follows, that, if any evil befall her, the hive is left without a queen. It sometimes happens that she dies, or is taken away by the owner of the hive, to observe the result. For 12 hours, little notice is taken of the loss ; it appears not to be known, and the workers labor as usual. After that period, a hubbub commences ; work is abandoned ; the whole hive is in an uproar ; every bee traverses the hive at random, and with the most evident want of purpose. This state of anarchy sometimes continues for 2 days ; then the bees gather in clusters of a dozen or so, as though engaged in consultation, the result of which seems to be a fixed resolution to supply her loss. A few of the workers repair to the cells in which are depsited the eggs of the workers ; 3 of these cells are quickly broken into one, the edges polished, and the sides smoothed and rounded, a single egg being allowed to remain at the bottom. When this egg hatches, the maggot is fed with a peculiar nutritive food, called royal bee-bread, which is never given to any maggots but such as are to produce queens. Work is now resumed over the whole hive, and goes on as briskly as before. On the 16th day the egg produces a queen, whose appearance is hailed with every demonstration of delight, and who at once assumes the cares of a mother over the hive. When, under ordinary circumstances, a young queen emerges from the chrysalis, the old one frequently quits the hive, heading the first swarm for the season, and flying to some neighboring resting-place, is observed by the owner, captured, placed in a new hive, and a new colony is immediately commenced. Before a swarm leaves the hive, sure indications are given of the intended movement ; the workers leave their various occupations, and collect in groups, especially near the door of the hive, as though in consultation on the important event about to take place.

As the summer advances, many queens are hatched, but the workers do not allow them instant liberty, as severe battles would take place between them and the reigning queen, in which one would be killed ; the workers, therefore, make a small hole in the ceiling of the royal cell,

through which the captive queen thrusts her tongue, and receives food from the workers. In this state of confinement the young queen utters a low, querulous note, which has been compared to singing.—When the reigning, or newly created queen, finds one of these captives, she uses every effort to tear open the cell and destroy her rival. To prevent this, the workers often interpose, pulling her away by the legs and wings; to this she submits for a short time, when, uttering a peculiar cry, called her voice of sovereignty, she commands instant attention and obedience, and is at once freed from her assailants.

The cocoons spun by the maggots of the workers and drones completely envelop the chrysalis; but that spun by the maggot of the queen appears imperfect, covering only the upper end of the chrysalis. It has been supposed that they are thus designedly exposed to the attacks of other queens, and their destruction, before emerging, facilitated. When the chrysalis of the queen is about to change to a perfect insect, the bees make the cover of the cell thinner by gnawing away part of the wax; and with so much nicety do they perform this operation, that the cover at last becomes pellucid, owing to its extreme thinness.

The combs of a beehive comprise a congeries of hexagonal cells, built by the bees as a receptacle for honey, and for the nurseries of their young; each comb in a hive is composed of 2 ranges of cells, backed against each other. The base or partition between this double row of cells is so disposed as to form a pyramidical cavity at the bottom of each. There is a continued series of these double combs in every well-filled hive—the spaces between them being just sufficient to allow two bees, one on the surface of each comb, to pass without touching.

Each cell is hexagonal, the 6 sides being perfectly equal. This figure ensures the greatest possible economy of material and space; the outer edges of the cells are slightly thickened, in order to gain strength; the same part is also covered with a beautiful varnish, which is supposed to give additional strength. The construction of several combs is generally going on at the same time; no sooner is the foundation of one laid, with a few rows of cells attached to it, than a second and a third are founded on each side, parallel to the first, and so on till the hive is filled—the combs which were commenced first being always in the most advanced state, and therefore the first completed.

The design of every comb is sketched out, and the first rudiments laid by a single bee. The foundress-bee forms a block out of a rough mass of wax, drawn partly from its own resources, but principally from those of other bees, which furnish wax from sacs, in which it has been secreted, that are situated between the segments of the body of the bee; taking out the plates of wax with their hind feet, and carrying it with their fore feet to their mouths, where it is moistened, masticated, and rendered soft and ductile. The foundress-bee determines the relative position of the combs, and their distance from each other, the foundations which she marks serving as guides to the ulterior labors of the wax-working bees, and of those who build the cells, giving them the advantage of the margins and angles already formed. The mass of wax prepared by the assistants is applied by the foundress-bee to the roof or bottom of the hive, and thus a slightly double convex mass is formed; when of sufficient size, a cell is sculptured on one side of it by the bees, who relieve one another in the labor. At the back, and on each side of this first cell, two others are sketched out and excavated. By this proceeding, the foundations of two cells are laid; the line betwixt them corresponding with the centre of the opposite cells. As the comb extends, the first excavations are rendered deeper and broader; and when a pyramidal base is finished, the bees build up walls from its edges, so as to complete what may be called the prismatic part of the cell.

The cells intended for the drones are considerably larger and more snbstantial than those for the workers, and being formed subsequently, they usually appear nearer the bottom of the combs.

Last of all are built the royal cells for the queens. Of these there are usually 3 or 4, sometimes 10 or 12 in a hive, attached completely to the central part, but not unfrequently to the edge of the comb. The form of the royal cells is an oblong, spheroid, tapering gradually downwards, and having the exterior full of holes. The mouth of the cell, which is always at the bottom, remains open until the maggot is ready for transportation, and it is then closed like the rest. When the queen has emerged, the cell in which she was reared is destroyed, and its place is supplied by a range of common cells. The site of this range may be always traced by that part of the comb being thicker than the rest, and forming a kind of a knot. The common breeding cells of drones and workers are occasionally made the depositories of honey; but the cells are never sufficiently cleansed to preserve the honey undeteriorated.

The finest honey is stored in new cells constructed for the purpose of receiving it, their form precisely resembling that of the common breeding-cells. The honey-cells vary in size, being larger or smaller according to the productiveness of the sources from which the bees are collecting, and according to the season.

It is remarkable that all animals that have been long under the protection of man seem to lose a part of their natural sagacity. In those countries where the bees are wild, and unprotected by man, they are always sure to build their waxen cells in the hollows of trees; but with us they appear improvident of their choice, and the first green branch which stops their flight is deemed sufficient for their abode. It does not even appear that the queen chooses the place where they are to alight; for numbers of the swarms, when they conceive a predilection for any particular branch, spontaneously settle on it; others follow their example, and at last the queen herself, finding the majority of the swarm convened together, condescends to place herself among them. The queen being

settled, the rest of the swarm soon flock around her; and in about an hour the whole body seems to be perfectly at rest.

When a hive sends out several swarms in a year, the first is always the best, as well as the most numerous; for, having the greatest part of the summer before them, they have the more time for making wax and gathering honey, and consequently their labors are the most valuable to their proprietor. Though the swarm is principally made up of the younger bees, those of all ages generally compose the number of emigrants; and as a single hive sometimes contains upward of 40,000 inhabitants, such a vast body may well be supposed to work with great expedition.

Much might be said before exhausting the interesting and instructive study of the bee. We have in this article endeavored to point out those features of their social life that are generally accepted by authority, setting aside other and even marvelous facts, which do not appear to be based on sufficient evidence.

(1.) "It is not only an old saying but a common one, at the present day, that when a bee loses its sting, it dies. Probably this has arisen from a personal gratification, but is it so? From our observation, we think bees are not always disabled or mortally wounded by losing their stings. Many times we have had bees continue to try to sting us, also pass back to the hives and among the bees as though not conscious of having lost their sting. We know queens are not disabled to perform their duties by losing a part, or the whole of her wings. A. F. Moon records a case of a queen which had left her sting in his hand, but she continued as fruitful as ever.

(2.) It is conceded by all observing beemen that the queen, or more properly speaking, the *mother-bee* is not the *ruler*, but the *ruled*. She does not lead out the swarm, but the swarm leads her out; she is averse to the bees building queen cells, and will tear down, destroy and kill the young queens while in embryo, unless watched, ruled and prevented by the workers.—When swarms issue, she does not come forth of her own free will, but is pulled, crowded and dragged out; and many times she tries to return, and sometimes succeeds. She is the *mother of all the community* when a hive is in a normal condition, but when there is no queen nor eggs to raise one from, they frequently have workers which lay eggs that always develop into drones.

(3.) The queen is never accompanied by a guard of 12 workers, neither more nor less; but a part of the time she is accompanied by workers which caress and feed her, just in proportion to the number of eggs laid.

(4.) Drones never gather any honey, but fill themselves before leaving the hive, and return empty. At any time when honey becomes scarce in the fields, the drones are killed, as there is then no probability of swarming, and consequently no young queens to become impregnated; the only exception to this is in an abnormal colony where there is not a fertile queen.

(5.) When drones are no longer needed in the hive, they are pushed, or dragged out of the hive, their wings gnawed so that they may not return, or even stung to death.

(6.) Occasionally a queen will lay some eggs before mating with a drone; if so, they will all produce drones. Of those laid after mating, produce mostly workers depending upon whether laid in drone or worker cells; and thus she continues from 4 to 5 years. Sometimes from old age or injury, she lays eggs which hatch to drones. The egg which is destined to produce a queen is determined by the workers, and not the queen, for any egg which will produce a worker will produce a queen, by being given an abundance of room and food.

(7.) If so, from where are the eggs procured to produce queens? The same egg that will produce a worker will, under proper conditions, produce a queen.

Eliza, Mercer Co., Ill. D. D. PALMER.

KRETCHMER'S FEEDER.—Some of the points claimed for this feeder by friend Kretchmer, are as follows: "It will do all that other feeders do, and has some advantages beyond even that. It can be set in a common auger hole; it has a firm stand on the hive, and excludes light and rain; the VanDeusen will let rain in around the feeder when feeding from the outside and requires a large hole; mine *does not ventilate* when feeding, but can be used to *close* the feed hole, or ventilate at pleasure when not used as a feeder, allowing the escape of foul air from the centre of the hive, without admitting rain or light, and is hence never glued up."

It can be obtained at this office.

"RED HOT" is what everybody calls the weather of July, this year. It has been hotter than for years. The bees have, seemingly, enjoyed it.

Southern Notes.

Improvement of the Italian Bee.

The Question has been asked: "Has the Italian honey-bee any fixed characteristic mark, by which their purity can be ascertained?"

A German writer of considerable distinction, Mr. Gravenhorst, says "Italians are pure when they bear distinctly and fixedly the marks which distinguish those bees in Italy and Italian Switzerland, in which they have been found existing for centuries past, unaided by special arts of cultivation, and as they exist there at the present day."

To this class of districts belongs upper Italy and Bellinzona, in the canton of Tessin and Roveredo, in the canton of Grisons, in Switzerland, the marks which we find distinguishing the Italian bees there. They invariably show three yellow bands, distinctly impressed. The color of these bands, (of which 2 are broad and 1 is narrow,) varies somewhat, according to the locality. In upper Italy, the color of the bands is somewhat light, while in Tessin and the Grisons it approaches more that of the chestnut, in color. Some are yellow to the extreme tips of the abdomen, while others have bands less yellow or brownish, and from the third abdominal segment their color passes gradually into a darker shade.

Many of these queens produce princesses all uniformily alike, of yellow or brownish color, whereas the daughters of others are more or less dark, not resembling their mother; but all the queens derived from the districts named, without exception, produce workers having yellow or brownish (orange-colored) bands.

Such is the archetype of the Italian bee.—All deviations therefrom are no longer pure, whether passing in one direction or another. Our friend, and others, have admitted that it was formerly customary to maintain in Germany that there was in this bee, even as obtained from Italy and Italian Switzerland, a slight dash of black blood. But our friend does not concede this to be so now, but that in Italy and Italian Switzerland an archetypical race has been gradually formed; and, by careful selection of queens for breeding, Italian queens have been produced, which, as regards their color and that of their progeny, are considerably lighter and handsomer than the original stock.

But he is also of the opinion that these brighter and handsomer bees are the product of artificial, or rather scientific breeding; and of the peculiar circumstances amid which they came into existence, he says:—"It is stated, that the young queens, now bred in America, from imported stock, are brighter colored than their mothers, but can by no means admit that these bees are genuine Italians, because they lack the genuine characteristic marks of real Italians. They are, if we so please to call them, improved Italians; or, they may be more accurately named American Italians."

Dzierzon says, that by careful selection of queens for breeding stock, he secured a variety in his apiaries, which are prettier or brighter than those procured from Italy or Italian Switzerland. But that Dzierzon's Italians, exclusively, or those brighter American Italians, alone are to be regarded as genuine, is certainly not the fact. He further says that the bright Italian has less economic value, &c.

It is an altogether different matter, when, from a large number of colonies, a selection is made from among the best marked bees and queens, and the best, in all respects, are taken to breed from. In this he admits that no one has been more eminently successful than Dzierzon. His long experience, and peculiar genius as an apiarist, had enabled him to produce in his apiary the most beautiful workers, combining at the same time *all* the other desirable qualities, and very distinguished specimens of these so called "Italian queens."

BRIGHT ITALIANS *vs.* DARK.

Although our friend admits that the peculiar genius of Dzierzon, as an apiarist, has enabled him to combine all the desirable qualities of these so called "Italian queens," yet, he cannot concede that they are genuine Italians.

Is it possible that our noted bee-keeper, Dzierzon, never purchased any queens from the districts above named, and he the most noted bee-keeper in the old country? It is possible that Dzierzon's light colored Italian bees, and those bred in America, even, from imported mothers, and from the districts as above named by our friend, and as nothing coming therefrom but the "Simon pure," yet, he cannot concede them to be pure, or genuine Italian bees, and calls them "Improved," or "American Italians," from the fact that they are lighter and more beautiful in color, although they bear the 3 distinct and uniform bands that the darker colored ones do; yet, they must be called improved or American Italians!

Now, Mr. Editor, if you or our friend can inform us which horn of the "dilemma" to take, we would be glad. It is not the first time that this matter has been jumbled up. To what conclusion can the novice in apiculture come by reading the description given of the pure Italian bee? First, he says, they invariably show 3 yellow bands, (correct,) the color of these bands varies according to locality. Would not the same rule hold good when shipped to this country? Our friend, perhaps, don't know, and consequently calls them American Italians, and *not* genuine.

Again, in upper Italy, the color of the bands is some lighter, while in Tessin and the Grisons it approaches more that of the chestnut; and as it regards coloring, some are yellow to the extreme tip of the abdomen, while others have bands, legs lellow or brownish, and passes gradually into a darker shade. He further admits that many of these queens produce princesses, all uniformily alike, of yellow or brownish color; whereas, the daughters of others are more or less blackish or dark, not resembling their mothers. But all the queens from the district named will produce, with-

out exception, workers having yellow, or brownish (orange colored) bands.

Here we have several shades of color given, as described and set forth by our friend, which our experience carroborates. As to their varying in color, we often think of the description the old lady gave of her Burkshire pigs. She said, "they were ring streaked, and speckled, but she knew they were pure, as they were bred in *Ohio*." So with the Italian bees; they vary from light to dark, and some so very dark that they show impurity. They seem to vary as much in color as did the old lady's pigs.—But our friend has given us a very elaborate description of the place where the Italian bee is found without spot or blemish. As nothing is found in the districts named but the pure Italian bee, we would advise our importers to obtain bees from the districts named.

We have bred the Italian bee from both home-bred and imported mothers, ever since its first introduction into this country; while a large majority of the queens bred workers of uniform markings, viz.: with 3 yellow bands, but of various shades, as well as various grades of color, we have also found that the queens often differ, as to color, as do the workers. So far as it regards the economic value of them, we have only found that it lies in the scale of the color of them—not in the superior qualities, such as prolificness, hardiness and their ability to store honey, &c. But the beautiful, bright-colored Italian bee finds much quicker sale than the dark; and the brighter the bee, the greater the value. These bright Italian bees, although bred direct from imported mothers, our friend Gravenhorst calls imported, or American Italians, and concedes them genuine, yet admits that some of the queens, as found in Italy, are yellow to the tips of the abdomen; and from the description given of the various colors, as produced from the different localities, that they, too, differ much.

The question will be asked, no doubt, why Mr. Gravenhorst calls these bright, or light-colored Italians impure, although bred from imported mothers? If the bright, or light-colored Italian bee breeds her workers uniform in their markings, then they are as pure, and we have very good reason to believe purer than those of a much darker strain. However, we will not argue this further, but will say, if the description of the Italian bee is correct; from its first history there has been two classes or colors described, the light and the dark; and the preference was given to the light golden color,—but not until within a few years—since the darker class has been largely imported did we hear that they were superior to the brighter color, and we cannot but think our friend in error, when he calls the bright yellow Italian bee, as now bred in this country, impure.

Can it be possible that the American bee-keeper cannot tell when his bees are uniform in their characteristic marks, when it is a well known fact that America leads the world in apiculture?

About those queens producing princesses uniformily, while others not duplicating themselves at all, is evidence of their not having any fixed characteristic mark of their own, as to duplicating themselves in points of color. Here we agree with Mr. Gravenhorst, and will further say that we believe that neither Mr. Gravenhorst or any other man can produce Italian queens that will duplicate themselves every time in their color. It cannot be done with the Italian bee any more than it can with the human family! Take any Italian queen and raise 25 queens from her, under any circumstances, and some of the queens will vary in shades of color. Well might friend Dadant say he could not see how a light-colored queen could produce dark-colored daughters, and *vice versa*; and suggest that perhaps it was the honey, pollen, or the weather being too wet or cold, the wind blowing so, and so, or electricity. Why not say they were reared in the wrong time of the *moon*?

From careful experience and observation, we have found, while breeding from the best imported Italian bees, that they will produce queens all the way from a golden color to a jet black; yes, even to a shining black. We have tested some of these shining black queens, bred from imported queens, from the districts described by our friend, and found that they bred as bright and uniform workers as any bees that we have ever seen.

We once received a queen from Rev. A. Salisbury, of Illinois; although quite a small one, she bred the largest bees, and was one of the most prolific breeders that we ever saw. Her bees were as uniformily marked as any could be, but her queens were of different shades of color—all good—and she often bred a dark queen, black as black could be; and these black queens produced the handsomest and brightest workers we ever saw.

We received an order the other day for an Italian queen; the order for which said, "Send me a queen that will duplicate herself every time as to color, viz.: bright yellow." He wanted no other. Well, we could not fill this bill, and we did not believe any other man in America could; we knew of none, unless it was those spoken of by our friend, that produce princesses "all uniformily alike." If such queens can be found, they will command any price asked for them; but they will not be found in this generation.

ARE BEES PROFITABLE?

The above question is frequently asked, and we can only reply "no and yes." If bee-keepers insist on managing bees as did their ancestors, they will find it a rather discouraging task; on the other hand, if they will manage them under the new system of bee-keeping, with a little knowledge of their habits and requirements, the result must be one of profit and pleasure.

Remember, the very first element in successful bee-culture is an intimate knowledge of the bee, and this can not be acquired in a day, although very easily learned when the novice is ready and willing to apply himself to the study and nature of their wants and habits. It can not be acquired in a day from books. Every step that is taken through the labyrinthian

mysteries of the bee hive, only fits and qualifies for success in the enterprise.

We would recommend to beginners, if profit be their object, to commence with only a few colonies, in a good, simple, movable, frame hive. This will enable them to often inspect the interior of the hive, and every inspection will prove a valuable lesson, and will enable them to more wisely enlarge upon their investment —bearing in mind that strong swarms are the ones that pay, and he should ever labor to keep all in that condition. The beginner, of course, has in his mind in what special product he will receive his profit—bees or honey. He must consider that one is at the expense of the other. If he wishes a large yield of honey, he can not expect to increase his stock so fast as if their stores are left with them, and given to them in artificial swarming, as every comb, whether containing brood or honey, adds great strength to the colony. The apiarist is laboring for dollars and cents, and the greatest amount that can be procured from a single colony.

Then the question is, "bees or honey ?"—If bees exclusively, then at the expense of the surplus honey ; and by artificial swarming, they can, in a good honey season, increase their stocks very rapidly. But always keep colonies strong.

"But," says one, "we want honey."—Then you must proceed in a different way. If honey be the object, you will need all the bees that your hive will produce, kept at home, for surplus honey. Besides, your hive must possess sufficient capacity to engage all the bees in labor. Room must be given for a strong and constantly increasing force of workers, or they will be compelled to either leave for the woods or to hang idly outside of their hive, simply for the want of room. The beginner should remember that the greatest number of bees that they can keep at work in the boxes, the larger amount of honey he will receive for his trouble. A colony of bees in the spring, with a plenty of honey, brood and bees, will be very apt to give their owner 100 lbs. of honey in a good season.

For a beginner to produce such results, he will, of course, need to study the best way of applying boxes, that his bees may have the greatest facility for their work.—We manage them in this way: Put on the boxes as soon as the bees begin to work in the spring. As soon as they get fairly at work in the boxes, building comb, raise up the boxes and place an empty set underneath them. This will draw up nearly all the surplus bees, uniting their work with boxes and hive, thus giving the queen full control of the brood-nest, which, if not given, the workers would occupy too much of it for honey, thereby lessening the strength of the colony or causing them to swarm out.

We keep adding boxes as above described, until we often have from 4 to 6 set on at a time. Adding boxes in this way, the surplus honey is nearly all stored above, and the queen, with a sufficient force, will manage matters below. Following this plan, a large force of workers is continually being added, which is the life and prosperity of the colony, and the profit of the bee-keeper.

In the question of profitable bee culture, there is involved a question of resources.—The floral treasures of the country must be taken into consideration. There are portions of our country where bee-keeping would not prove so successful. A very little portion of it but a few colonies may be kept for the benefit of the family. We have hardly made a commencement upon the honey capital of the country, and the large amount that is yearly gathered, is but a drop saved from that yearly going to waste. Where honey plants are not a natural growth, we have many kinds of plants that are soon brought to yield a large amount of honey. All that is required is a little trouble in sowing and setting out trees, that will soon pay largely for the honey alone. The linden tree will grow in almost any soil, and yields largely in honey of the finest quality.

Commence on a small scale ; study the habits and nature of the bee, and with interest and energy the beginner will be likely to succeed every time.

Rome, Ga. A. F. Moon.

From Our Home Journal.

Bee Pasturage in the South.

Apiculture in the South could be made much more profitable if more attention were paid to the cultivation of the honey producing plants. The principal source of honey in the States south of Tennessee are the fruit blossoms in early spring—the Black Gum (*Myssa Multiflora*,) which yields large quantities of honey ; the tulip tree, and a few other flowering trees and plants of minor consideration. We have no large fields of clover, no basswood groves, no acres of buckwheat. We have a few bees in old boxes, logs and kegs, stowed away among the weeds, and often by piles of promiscuous rubbish. If, perchance, they make their unworthy owners a few pounds of surplus honey they are considered to have "done well ;" but if they fall a prey to neglect and the worm, they are set down as "unprofitable servants." No one can expect to breed and rear fine stock without thorough attention. He must provide for all their wants. He should have his fields of corn, oats and grass. The bee is no exception to the rule. It does not and cannot gather honey from every opening flower, as many persons suppose. They need proper pasturage. It is impossible for bees to be any source of profit in a section of country where there are few honey-yielding plants. It should be the duty of every bee-keeper to cultivate as many of such plants as possible.

White clover will grow and do well in most all portions of the South, if the ground is well prepared, and not too sandy or poor. Where shade trees are to be planted in our yards, or along our lanes or highways, it would be best to plant such as make good, bee pasturage. The Linden is a tree to be particularly recommended. This is a tree of quite rapid growth, fine foliage, beautiful appearance, and makes a good shade.—

It grows and thrives well in Middle Georgia, and I have no doubt would do well in any portion of the South. Last season the writer sowed a plat of ground to buckwheat in the middle of July, which made a fair show, but had it been sown in August or the first of September, it would have done better. My bees luxuriated on it as long as it blossomed. My experience is against the opinion that has been advanced, that the buckwheat is worthless in the South as a honey plant. All honey-producing flowers, in every country, are liable to vary in the amount of their saccharine secretion with the peculiarities of the season. Hence, because a flower fails to yield its sweets one season, is no reason why it may not abundantly do so the next. Catnip (*Nepeta Cataria*) is also rich in honey, and should be planted in every nook and corner, in all of the out of the way places.

The writer would suggest to all bee-keepers to take note of all plants that bees frequent. Note the time of commencement of bloom and the duration, also the approximate increase of honey stored during the time such plants are visited by the bees.—Observations of this kind, made as carefully as possible, would do much to advance bee-culture in the South.

J. P. H. BROWN.

For the American Bee Journal.

Standard of Purity.

The call for a standard of purity in the Italian honey bee is a move in the right direction, and should never be dropped until the desired end is attained and the result published in the form of propositions, by which dealers in Italian bees are to be governed. We give the following:

The queen's abdomen, a bright yellow and tipped with black, with or without black points on the back. In workers, the first band next to the thorax very narrow; the second one broad, and separated from the first by a very narsow black ring; the third and last, not so broad as the second, but well defined; the yellow free from mottles, and the bees in the same colony uniformily marked, though the shade of color in different colonies may vary from a pale, light yellow to a heavy leather color. Drones more abruptly marked than workers; the bands not so uniform, and intersperced with black clouds with well defined margins; the under surface of the abdomen yellow.

The above is our standard of purity.—Before leaving the subject, we wish to call attention more closely to some peculiar markings of workers and drones: The exterior of the abdomen of each is composed of segments. In the Italian worker, the first 3 of these segments are a bright yellow. The posterior margin of each is marked by a black border, which separates the yellow into 3 bands in the pure stock.—The remaining segments are black, the middle of each is marked by a copious growth of yellow or light colored hair or down, and when the down is very light on the bees, some call them albinos.

Diametrically opposed to the above is the markings of the drones. As with the workers, the first three segments are principally yellow, but contrary to them the black border is on the anterior margin of these segments. Want of prominence in the first segment makes it hardly discernable. In the second segment the black anterior border stands out boldly, while the remaining part of the segment is yellow. In the third segment the black border is overlapped by the yellow of the second and does not appear so bold as the preceding, while the remainder of the segment is intermingled with yellow and black and at the same time overlaps the next. These give to Italian drones that peculiar marking which tends to excite admiration. The remaining segments may slightly share the yellow on their posterior margins.

S. D. MCLEAN.

Culleoka, Tenn., July 9, 1878.

From the Home Journal.

What is Honey-Dew?

Honey-dew is a substance—not an element, but composed of elements. These elements must be compounded somewhere. The composition takes place in plants.—Every plant is a laboratory within itself.—All our sugars and sweets come from plants, and are taken into the plants in an elementary form through the leaves.

Plants, like animals, are so organized as to throw off by excretion excessive matter. They sometimes imbibe too much of the one element, or too little of the other, and for want of proportion of the elements, assimilation is retarded, and then the plant relieves itself by excretion. An undue proportion of the azotized and the unazotized substances causes our large forests of oak, hickory, and many other trees to excrete that sweet, gummy substance, known as honey-dew. It is this that causes the grass of the broad Western prairies to become so gummy as to adhere to the feathers of the wild turkeys and other birds that wade through it, till they cannot fly. It is this chemical derangement of plants that causes honey-dew.

Says Langlois: "I observed, during the dry summer in 1842, that the leaves of the linden tree became covered with a thick, sweet liquid, in such quantity that for several hours of the day it ran off the leaves like drops of rain. Many kilogrammes might have been collected from a moderate-sized linden tree.

In Grisen, Mr. Trapp possesses a *clerodendron frangraus*, growing in the house; it exudes on the surface of its leaves, in September, large, colorless drops, which form regular crystals of sugar candy upon drying; showing the change proportional of carbon, hydrogen and oxygen as the season changes and the organic activity of the leaf changes. The proportion is not assimilable nor nutritious to the plant; the plant organs in their functions excrete it.—Thus we have honey-dew, a product of plants by chemical derangement.

Says Liebig: "In a hot summer, when the deficiency of moisture prevents the

absorption of alkalies, we observe the leaves of the lime tree, and of other trees, covered with a thick liquid, containing a large quantity of sugar; the carbon of this sugar must, without doubt, be obtained from the carbonic acid of the air. The generation of the sugar takes place in the leaves; and all the constituents of the leaves, including the alkalies and alkaline earths, must participate in effecting its formation. Sugar does not exude from leaves in moist seasons; and this leads us to conjecture that the carbon which appeared as sugar in the former case would have been applied in the formation of other constituents of this tree, in the event of its having had a free and unimpeded circulation."—*Agr. Chem., page* 135.

"The assimilation of substances generated in the leaves will depend on the quantity of nitrogen contained in the food. When a sufficient quantity of nitrogen is not present to aid in the assimilation of the substances destitute of it, these substances will be separated as excrements from the barks, roots, leaves and branches. The exudation of manile, gum and sugar in strong and healthy trees and plants, cannot be accredited to any other cause."—*Liebig.*

Many other scientific and agricultural chemists have written similarly touching this subject; and I think it is well substantiated that honey-dew is a production of plants, and is exuded by plant force—not insects. That honey-dew falls, that it is extracted by puncture of insects, and the many other ways equally fallacious—is argued by too many who are well capacitated to know better, if they were only more thoughtful and investigative and less willing to be deceived. K.

Smith's Grove, Ky., July 8, 1878.

Chattanooga, Tenn.

"The question has been often asked, 'Will queens sting?' I will give my experience: Last summer, while experimenting with virgin queens, I noticed, on two or three occasions, while holding them between my thumb and finger, they would curve their abdomen and thrust their stings out just as a worker would under similar circumstances. I was always very careful that the sting should not come in contact with my fingers. Although I have never been stung by one, yet, to judge from their actions, I should say emphatically that a virgin queen *will* sting if provoked." H. C. DODGE.

☞ About the first of June, friend J. W. Winder, of Louisiana, was taken sick, and has been bed-ridden ever since. We learn with regret that he is still very weak. Had this sickness not intervened, he would, we hope, ere this have fixed up that matter of which Novice complained in May last. THE AMERICAN BEE JOURNAL neither approved the attack by Novice, nor the defense by Mr. Winder. A moral obligation can never be liquidated by malice, neither can it be paid by quietly submitting to real or supposed abuse.

Foreign Notes.

Italian Bees in Australia.

In a California paper we notice a letter from Queensland, Australia, from the Hon. Angus Mackay, concerning the successful introduction of Italian bees into that section of Australia. The editor remarks:

"For many years past, efforts have been made to introduce them, but they failed to 'cross the waters' alive, when Mr. Mackay was with us here, as Queensland's Commissioner, he desired us to prepare one of our best stocked hives, that he might take them on with him. We, therefore, selected one of our largest and best colonies, having ample brood comb and a full stock of honey; we prepared it with a fine wire cage on top with holes for the bees to pass up for air, and made all the needed fixtures to have it go on safely; but, however careful *our work* may have been done, we accord to our honored friend's continued care of the bees on the voyage their final grand success. Mr. Mackay took them into his state-room and had them lashed to the side safely, and on pleasant and calm sea days rolled them out on deck to give them air. Mr. Mackay watched his 'pets' with great care and kindness—he did his work with the bees as he had performed all his duties as the Commissioner, faithfully and splendidly, and hence the success.

A Cure of Foul Brood.

On June 21st, I discovered that a colony received from Baron Rotschultz, of Posendorf, Carniolia, had become foul broody.—A few days after its arrival, in spite of feeding, the number of bees did not increase. But as foul brood is unknown here, and I had never seen this malady, I thought that the small quantity of the brood, the lack of industry and desire to build combs, were the result of weakness or old age of the queen; and I resolved to replace her, on the first opportunity, by giving the colony a queen cell. I gave the colony some brood from other hives, but the sickness of the colony increased, and seemed to come from the fermentation of a liquid substance. Then I resolved to further examine the hive.

I saw that the bees were mainly on the brood comb that I had given them, and that the brood which came with the bees, from Posendorf, was altogether isolated; that the capping of a dozen cells were deeply pressed down; that all the honey in the uncapped cells (there were no other in the hive) was fermenting, and that the bad smells came from the combs from Posendorf. I cut with a penknife some of the cells whose cappings were pressed down, and saw the brown matter they contained. Then I discovered the cause—foul brood.

I had on hand a little salicylic acid—a substance which is very dear. Then my

eyes met a vessel full of soda. Soda stops fermentation more readily than salicylic acid. I resolved to try soda, before getting salicylic acid. I prepared a pailful of a strong solution of soda and water, warmed by the sun. The first frame was dipped in the solution several times, together with its bees and honey. A few bees swam, the others clung firmly to the comb and were put back with it in the hive. I gathered the swimming bees with a skimmer, and put them in the sun to dry. None of them perished; and after a few moments all returned to the hive. Fermentation and smell disappeared immediately from the immersed combs.

After this, I dipped in the soda, all the combs coming from Posendorf, with their bees and all. The queen had fled to the sound combs that I had given to the colony. Mr. L. Krancher, publisher of the *Bienenfreund*, visited my bees and also noticed the foul state of this hive. A few days after, I resolved to bathe the queen in alkaline water, when I noticed her foul smell. For the bath I used 250 grammes (about 9 ounces) of carbonate of sodium, in a pail of water, containing 8 or 10 litres, (quarts), in which I mixed a little salicylic acid·

The result is complete, so far, July 15.—The smell of the hive is normal; the brood is fast spreading; there is now capped honey in the hive; the bees now show some readiness to sting; they had none when they were sick; the pressed cells, that I had opened before bathing, have disappeared to such an extent that it is impossible to detect one, even with the most careful search; and the bees begin to fill their empty frames with comb.

This remedy seems more advantageous than the solution of salicylic acid; not only on account of its cheapness—10 centimes (2 cents), instead of 3 francs (75 cents)—but also on account of its prompt effect. Instantly—the queen, bees, honey, brood, combs, frames, and everything was purified of the disease.

This remedy was not only administered externally, but as the bees were compelled to suck the lye mixed with the honey, the disease was annihilated in their stomachs. The bathed bees were also purified externally. The drying of the wet bees and of the combs was soon completed by the warm weather. That the bath kills the uncapped brood, is of very little consequence, when compared with the other advantages of this remedy.—*A. C. Kermann, of Thurm, in Deutscher Bienenfreund.*

From Dom. Poultry Gazette.

What a Woman knows about Bee-Keeping in South Australia.

"Granger Kate" discusses this subject in the *Southern Farmer*. She says a good many things that apply here as well as there; but unfortunately the grub has come in upon our hives and destroys our calculations unless the utmost vigilance is employed.

It requires but a small capital to start bee-keeping with on a small scale, and as skill and knowledge increase, numbers increase. The fear of being stung deters many from keeping bees who would otherwise gladly engage in it; and really, to some, the sting of a bee is no small matter. To have one's eyes closed up for a day or two, and perhaps suffer with a severe headache the while, is by no means pleasant.—This, however, can be avoided by providing one's self with veil and gloves.

A cheap and easy way to make a bee veil, and as good as any, is as follows: Procure a piece of plain, coarse, black cotton bobinet, sew it up as a sack, run a draw string in the end, which can be tied round the crown of the hat—any kind will answer—put a string in the lower end also, to tie round the neck, or simply tuck it in around the neck, which will answer quite as well. Should a bee strike the veil with the intention of stinging, the brim of the hat will hold it at sufficient distance from the face to render it impossible for it to reach one.

Gloves can be rubber, or thick, coarse, home-knit woolen gloves, wet in cold water previous to using.

The best thing I ever tried for a bee sting, to neutralize the poison and relieve the pain, was lye soap or common soda; either will do.

Gentleness and the judicious use of a little smoke, are the most effectual bee charms. No one should attempt to keep bees in anything but movable frame hives. The time to make bee-keeping successful and profitable in the old logs and boxes is gone. They afford too many hiding places for the moth and its progeny of worms, and make it too difficult, indeed next to an impossibility, to extricate them. A good, plain, moveble frame hive, well painted, will last a long time. In reality, there is no such thing as a moth-proof hive, and he who sells one as such is either an ignoramus or something worse. Common sense will teach anyone that where a bee can enter, a moth can enter. The secret of success in keeping down moths is to keep your colonies full and strong, in close, well-made hives, and the bees will attend to the other part of the business themselves. The bee-keeper is rich in proportion to the strength of his colonies, and not the number of his hives. If one wishes bees to do well, by all means keep the colonies strong.

Foreign Items.

GLEANED BY FRANK BENTON.

ARTIFICIAL COMBS.—M. Junger, of Jaillien, writes to the editor of *L'Apiculteur*, Paris, as follows: "I send you a little box containing a sample of artificial comb. As you can see the affair is still in its infancy, but it will grow. I have only made the cells on one side. What I am trying to determine is whether it is possible practically to make wax combs resembling very closely natural combs. So far good; I have proved that one can make combs somewhat

like those constructed by bees, so far as regards dimensions and construction. In another package I will send you a sample having cells on both sides. This indicates the truth of what the abbot Webber has asserted for two years, namely, that the production of artificial comb as it is now made, that is with only the middle wall or septum is still in its infancy." *L'Apiculteur* says the comb made by M. Junger is excellent, and gives hopes of a work similar to that of the bees.

STINGS.—"Still another remedy for the *certain* cure of bee stings! Take a fresh tomato leaf, crush it, and rub upon the part stung. The pain will disappear immediately, and without the slightest trace of swelling. We would like to be able to transmit to posterity the name of the discoverer of this method."—*L'Apiculteur.*

M. E. FRANCOIS, of Catillon, France, has published a 16-page pamphlet entitled "*Nouvel Apercu sur les Abeilles*," for some years. In the last number, which is full of strange statements, M. Francois says there are male bees of two kinds: "Female males and male males." He "has seen males lay."

MERITED HONORS.—Herr Gustav Budiegizki, President of the "Society for the elevation of bee-culture in Bohemia," spoke as follows at the Carlsbad Convention: "Director of Chancelory Cori, of Breux, Bohemia, has, in union with the worthy Count Kolowrat, Krakowsky, rendered very great service by the importation, acclimation, culture and introduction of the valuable Cyprian bees, and therefore I cannot refrain from expressing publicly my thanks to the noble Count, and, as President, in behalf of the Association, to bestow upon Herrn Cori the diploma betokening the highest honors." This gentleman made the following reply: "Highly esteemed officers of the Association: Words to give fitting expression to my thanks and to the feelings of my heart for this unexpected honor, fail me. The worthy Association will, however, accept in return my warmest assurance that I will further work for and serve its interests so far as time, opportunity and strength are granted me." [Applause.]

One cannot help but wonder if the bee-keepers of America will as readily give proper credit to the worthy gentlemen in Massachusetts who have been enterprizing enough to bring the Cyprians to America.

For the American Bee Journal.

Hannemann's Bee Sieve.

Mr. Hannemann, a German bee-keeper residing in Southern Brazil, writes in substance the following to Herrn R. Mayerhoeffer, editor of "*Der Bienenvater*," of Prague, Bohemia:

"In districts where bees swarm so often that the bee-keeper is compelled to kill a number of his colonies every autumn, this sieve is of great use. Swarming should be hindered in colonies that are intended for honey-producing. But weak colonies cannot be used for this purpose, and here comes in the use of the sieve. It is better to have a few colonies in an excellent condition than many in poor condition. I can secure the conditions for honey-storing if I separate the queens from the bees designed for honey-gathering, by inclosing the former in cages placed in the center of the hive, so as to hinder brood-rearing. Mr. Hannemann uses hives containing 11,000, 13,000, and 31,000 cubic inches respectively, containing 11, 13, and 14½ kilogrammes of bees. During 1876 he made a large hive containing a space of 31,500 cubic inches and placed therein 36 kilogrammes of bees. This hive furnished 244 kilogrammes of comb honey and 9½ kilogrammes of clear wax. Of course I divide my bees in stock hives. The giant colonies in these honey-producing hives have lost their bees by the end of the harvest, but I have no more need of them for it was the harvest I wished to secure. The queens, however, having been kept from laying during the season, are at its end in good condition and prolific."

I think Mr. Hannemann's system would be very good for all countries where bees swarm considerable and where a good pasturage without interruption exists. It must be best adapted to the Southern States and California. I request my bee-keeping brethren to experiment in this direction and send me their reports, or else communicate them to the JOURNAL. R. MAYERHOEFFER.

MANUAL OF THE APIARY, by A. J. Cook, Professor of Entomology in the Michigan State Agricultural College. Second edition, revised, enlarged, mostly re-written and beautifully illustrated. Published by T. G. Newman & Son, Chicago. This work is exceedingly valuable, indeed, indispensable, to apiarists, as it contains the latest discoveries and most recent improvements in methods of apiarian management and bee-keeping apparatus.—*Voice of Masonry.*

The honey bee has come to the front with the purfume of summer flowers, and one of its best friends, A. J. Cook, professor of entomology, in the Michigan State Agricultural College, has written its history, its habits and its home and how to tame it—in a handsome bound volume, amply illustrated.—*Chicago Daily Post.*

Correspondence.

For the American Bee Journal.

A Young Man's Experience.

My information in apiculture began with the winter of 1876, when I began perusing "Quinby's Mysteries of Bee-keeping;" and purchased 10 colonies of hybrids in box-hives. I transferred them in the latter part of April, 1877, to the Langstroth and Quinby hives, but 3 of them had dwindled. In June, I received 3 more in place of them.—On May 26, I divided one of the strongest, so as to obtain queen cells and queens for other colonies when I divided them. In 10 days afterwards, I took out 10 queen cells, leaving 1, out of the 16 started 9 days before. Four of the cells were used in dividing, while 6 were put into nuclei hives. I also made colonies by taking 2 frames with some brood, and putting them into an empty hive and introducing a queen cell or queen.—Sometimes I had to strengthen them with a frame of brood. Keeping reserved frames in nuclei hives, during the season, I found profitable. Colonies were also made in August, when buckwheat was yielding bountifully, and did well.

As I was working at home, for father, I intended not to let a colony swarm naturally; but on the 30th, of August, as I was extracting, I found a double handful swarm on the cross-bar that holds the boards which covers the bee hives; and, not expecting a swarm at that time of the season, I brushed them off; but they flew back to their place again. I went on extracting, but a few minutes after, they appeared like a swarm in the air, and soon settled on the board that shaded the hives; then I tried to catch the queen; she flew up in the air and back to the bees several times before I could cage her. Only 1 drone accompanied the swarm. I put the little swarm into an empty hive with a couple of frames of brood and bees, and gave them a good smoking when uniting them, giving them a frame of brood every few days, until their hive was full. They became one of my strongest.

I got some comb foundation, which I liked very much. I tacked a strip of pasteboard with the edge of the comb foundation to the under side of the upper bar in the frame. In putting surplus boxes and sections for surplus honey, I discarded the honey board, believing they will work faster, and go up into the boxes sooner when it is removed. I also learned that taking a section of comb and putting it between empty sections will make bees go up immediately.

We got but very little honey from fruit blossoms. White clover commenced to bloom June 10, but there is not much of it in this vicinity. Basswood bloomed the 21st of July, lasting only about a week.—The bees were busy on it while it lasted.—Just as the basswood season ended, buckwheat began, and lasted 5 weeks, yielding abundantly. It was from buckwheat that I got most of the honey this season. I extracted all the honey in the beginning of the buckwheat season, so they wintered on it. I got in all, of extracted honey, 377 lbs. 7 oz; with comb honey I was not very successful; but few would work in sections; from my best colony I got 72 lbs. and 13 oz. In all I got of comb honey was 138 lbs. and 14 oz. I think I could get 300 or 400 lbs. more of buckwheat honey, had I time to extract it.

I commenced this season with 8 colonies, most of them in Langstroth hives; next season they will all be transferred to the Langstroth hive. There are but few bee-keepers here, only one in this vicinity who applies science to apiculture. To "Langstroth, on the Honey Bee," and the AMERICAN BEE JOURNAL I am indebted for many valuable hints in apiculture. Long may the JOURNAL wave! T. DUSTRUDE.

Avon, Wis.

For the American Bee Journal.

Bright Wax Sheets.

DEAR EDITOR. In the same mail with this letter, I send you a sample of sheets of wax. Some of it is pressed in a pair of rude plaster dies, by myself. This wax is quite different from the foundation on the market, being harder, not so easily melted, lighter in color and not having so much odor. It is made exclusively from white clover, being melted from caps that are shaved off in extracting. It does not get brittle by chewing; it does not stretch in cool weather, and in moderately thick sheets, the size of the sample, has stood the hot weather with very little sagging. It can be pressed in beautiful sheets for the section boxes, almost as thin as paper; and such sheets my bees have thinned out, in a number of cases, until the difference between that and natural comb is imperceptible.

I would like some information as to the qualities of wax from different parts of the country. Is it well known that the fat of animals varies in quality with the kinds of food? I suppose it is similar with the wax secreted by the honey bee.

I have tried several methods of strengthening foundation, to prevent sagging in warm weather. The most feasible appears to be to insert waxed threads, or narrow ribbons of strong, thin paper between thin sheets of wax, and then run through the machine. The sheets that I pressed in flat dies adheres well, and the bees draw out the cells without cutting out the paper.—Possibly threads might be worked in by the roller machines, by simply laying them upon the sheet of wax before running through.

I have one beautiful straight sheet of comb, in which are 4 thin strips of wood, to which the foundation was fastened. The strips of wood were put upright in a Langstroth frame, about 4 inches apart, and the foundation lapped on them and fastened with a little melted wax. It came within half an inch of the bottom bar, the strips resting upon the bottom. There could be no sagging in this case, and the comb was

built out over the sticks and finished up in workmanlike order. WM. C. PELHAM.
Mason Co., Ky., June 1878.

[The sheets of wax are of very bright color, quite brittle, and almost odorless.—Being pressed in plaster moulds, of course the corrugations are not as perfect as those made by roller machines.—ED.]

For the American Bee Journal.

The Standard of Excellence.

FRIEND NEWMAN:—The highest standard of excellence to which Italian bees can and should be bred, according to my ideas, would be about as follows, commencing with the

QUEEN.—She should be a bright yellow in color, good size, with large, strong wings and legs. Her queen progeny, when reared naturally, or under the swarming impulse, should be *exact duplicates* of their mother.

THE WORKERS should show 3 very distinct, bright golden bands. The wider the third band, the purer I think them to be.—If the dark edge on the bands can be bred off, which I think can be done, all the better. They should have large, long, tapering bodies, wings coarse and strong, and be very gentle to handle, and *Industrious.*

DRONES:—Now I think we come to *one* of the *severest* and *best* tests of all. They should have 3 *wide*, golden bands, and every drone be alike, as uniform in color and markings as are the workers. When I say 3 bands, I mean that each of the 3 bands be yellow its *full width.* Merely 3 narrow, brassy streaks won't do at all. The larger we can breed the drones, the better.

Brother bee-keepers, how can we expect improvement, as long as we allow these poor, little, insignificant drones, with perhaps one and two, narrow, brassy, *hair streaks* to mate our queens? We stand in our own light, just so long as we allow it.—This is no theory with me, but practice, as my bees will show. I have made great improvement in my bees, during the last few years, and hope to see the day when every colony I have will come up to this standard, as a few I now have does.

To prevent useless correspondence, I will say that I have no queens of this kind to sell yet. Must keep them for "seed," as queen mothers, as well as mothers of those fine drones.

Will some of the knowing ones please explain through the JOURNAL why Italian queens *do not*, and if they *should not* produce drones as even in color and markings as are the workers, when it is claimed that the drones are the true offspring of the queen, and are not affected in the least by the drone that impregnates the queen?—Gentlemen, speak out. Give us your ideas upon this matter.

My opinion is that the Italian bee is *not* a pure race at all; but I am very sure that by careful selection we can breed them up to perfection, carrying along all the good qualities, hardiness, prolificness, size, color, gentleness, &c., until finally we breed every trace of impurity out of them; then we will see one of the finest races of bees in the world, that will breed queens, workers and drones, constant in markings, color, size, &c. The majority of my queens produce beautiful workers and drones, but the queens themselves are rather dark and the drones are not as uniform as I would like them yet.

Who will be the *first* one to offer queens up to this standard? Time only will tell.—We hear of drones with "red heads" and "gray heads," and I often find them not only with "red heads," but their whole bodies red. Being of one solid color throughout, they look beautiful among the yellow workers. Hoping to see through the JOURNAL the ideas of others on this subject, I will close. JOS. M. BROOKS.
Elizabethtown, Ind., July 4, 1878.

[Friend Brooks sent a few of his "fancy" drones to this office. They look nice, with their "three golden bands," while living, but after death they lose their charms like all other "things terrestrial," and appear just about like "the common herd." We have some in one of our colonies that look just like them. Perhaps it *is* just about right to have the subject of "the improvement of the race" discussed now; and, if possible, let the most remote traces of impurity be rooted out, breeding this race of bees up to perfection. We fully believe that the time is not far distant when the American strains of Italian bees will be sought after the world over—for in no other country are they devoting so much attention to scientific bee culture, or the improvement of the race. Let us give the subject a *full* and free discussion.—ED.]

For the American Bee Journal.

Rust's Excelsior Bee Hive Entrance.

I claim for this entrance as follows:

1. Its wide and easy range of adjustability.

By simply operating the wire handle, by drawing as far as possible to you, you then have it closed so that workers *only* can pass; this is to shut the drones out when too numerous. Now push ⅛ of an inch, and you close it entirely up, with but very little ventilation; this is for moving.—Push ⅛ of an inch more and you open 4 holes; this is to be used when there is danger of robbers. Push ¼ of an inch more, and you open 16 holes for general use, when not too hot nor too cold. Push ⅛ of an inch, and you have but one hole open, with half as much ventilation as when the 16 holes are open; this is used to prevent robbing in the worst cases. Push ¼ of an inch, as far now as you can, and but 2 holes are left open; this is to prevent robbing when they are not too mad.

When more ventilation than can pass through the holes is wanted, the whole

entrance can be turned up enough to suit, or entirely up, so that the whole entrance in the hive is open.

2. The ease with which it is attached to any hive with open entrance like the Langstroth.

All that is necessary to fit and attach it to a hive is to measure the length it should be, and then cut the farther end from the wire off with a pair of shears. It should be ⅛ of an inch short. Bore a gimlet hole through where it wants to be, to admit the wire handle ; pass the wire through the hole and drop the entrance on the bottom of the hive ; now with a brad-awl bore holes for the staples, put the staples in as close as you can and allow the entrance to turn readily, and the job is done.

Fort Worth, Texas. ALBERT D. RUST.

[We have before us one of these Entrance Regulators. It is ingenious, and is well described by friend Rust. The greatest objection to it, that we can see, is its liability to prove a Guillotine for many a hapless bee. It is easily operated, and without such danger, it might be a convenient Entrance Regulator.—ED.]

Artificial Swarming.

"My bees are doing nicely, only I can't keep them from swarming. Please give us more light on artificial swarming through the JOURNAL. I have gathered a great deal of information from it, but need more. If I could have swarming under my control, I would consider bee-keeping an independent business. It is very annoying to get bees down from trees 20 or 30 ft. high, and they seem to swarm more on Sunday than any other day. The JOURNAL is always a welcome visitor here." L. Z. LANTZ.

Logan Co., O., July 1, 1878.

[Artificial swarming, or, more properly, the dividing of colonies, can be accomplished with ease. When the colony is very populous, about the middle of a warm day, take another hive of the same pattern and size of the one you wish to divide, and remove five frames, containing brood and honey, with the adhering bees, to the new hive, *being careful not to take the queen* from the old colony. Give each colony enough frames, either empty or filled with comb or comb foundation to fill it. These frames may be placed all at one side of the hive or between others, if the brood be not divided thereby. Comb foundation is very serviceable in building up such colonies, giving them room so quickly for the queen to lay her eggs or to supply honey-storing capacity.

If you have extra queens, it will be best to give the new colony a queen ; or, if you have a queen cell to give them, it will be well. If neither be at hand, they will raise one from the brood supplied to them from the old hive.

When the operation is commenced, place the new hive close to the old one, giving each one-half of the old location. Then daily move them a little further apart, until they are in a suitable position.

When several colonies are to be divided, a better plan is to prepare several nuclei colonies in advance, placing them into full-sized hives, and then take a frame of brood with adhering bees from each of the old colonies, giving these frames to the nucleus colonies, and thus obtain increase without swarming.

Every beginner should procure a good Manual, and study it well, not only to master the subject theoretically, but to have authority at hand at all times to consult, whenever matters occur in the apiary with which he or she may not be practically familiar.—ED.]

For the American Bee Journal.

A Plea in Favor of the Italian Bee.

In the last number of *Gleanings* I noticed an article entitled "A plea in favor of black bees," from G. B. Peters, of Ark. It is not my intention to dispute Mr. Peters, but try to put in a plea in favor of Italian bees.

This last spring having an opportunity of buying several good strong colonies of black bees in the old-fashioned box hive, and thinking that I had better carry on the experiment of Italian *vs.* black bees further than I had hitherto done, I bought them and transferred as soon as the weather would permit. There was honey enough to last them until fruit blossom and no longer. Several of my Italians were in the same condition. When fruit blossom came these same Italians went to work with a will, stored up plenty and some to spare, while the black bees had to be fed almost as regularly as man. Now that white clover is giving way to basswood, the Italians have done remarkably well, while the blacks have collected hardly enough "to keep soul and body together." If they do no better in the future than they have in the past, I doubt very much whether they will have enough to winter on, saying nothing about leaving me out in the cold.

I also find that the Italians are at work some two hours earlier in the morning, and while all is quiet about the hives of blacks in the evening, there is a busy hum of industry about those of the Italians. The blacks are more ready to tackle man or beast than the Italians. I can go on any warm day among the Italians and work until night without the aid of smoke, but the blacks partake, to some extent, of the "dog in the manger." Smoke takes a very prominent part in their manipulation.

Early in the spring when there were no

flowers, I found the blacks lurking about the weaker swarms, and in some instances I had to stand about over the hive to keep them off and save my colony. While extracting honey last week the bees became so thick and troublesome as to drive me into the house with my work. They had gathered around the place in which I kept the cappings; so I took particular pains to notice whether there were any Italians among them. To my great surprise not a solitary Italian was to be seen, every one of them were blacks.

Disgusted! I went to every hive that contained black bees and decapitated every queen, then inserted Italian queen cells, and now live in hopes of better times in the future. I have often heard of "being sick of a bargain," now I know exactly what it means, for I am sick of this one of black bees. FISK BANGS.

North Lansing, Mich., July 11, 1878.

Adulteration of Sweets.

FRIEND NEWMAN:—Inclosed please find a copy of the petition to Congress which we would like to have you publish. You cannot insist too much on the necessity for every bee-keeper to procure a copy of the petition by sending a 1 or 2 cent stamp to cover postage, and to have it signed and returned. Such small expenses and work will be repaid over a thousand times if we can draw the adulterated sweets out of the market. CHAS. DADANT & SON.

PETITION TO CONGRESS.

To the Honorable Senate and House of Representatives of the United States:

Your petitioners respectfully represent to your honorable body:—

1. That the sweets now in use in the United States, including cane-sugar, maple-sugar, syrups, candies, jellies, honey, etc., are often adulterated with glucose, and sometimes are manufactured entirely of it.

2. That this glucose is mauufactured from corn starch, by boiling the starch with sulphuric acid, (oil of vitriol), then mixing with lime. The glucose always retains more or less of sulphuric acid and lime, and sometimes it has copperas, sucrate of lime, etc.

3. That 17 specimens of common table syrups were recently examined by R. C. Kedzie, A. M., Professor of Chemistry in the Michigan State Agricultural College at Lansing. Fifteen of these proved to be made of glucose; one of the 15 contained 141 grains of sulphuric acid, (oil of vitriol), and 724 grains of lime to the gallon; and and another, *which had caused serious sickness in a whole family*, contained 72 grains of sulphuric acid, 28 grains of sulphate of iron, (copperas), and 363 grains of lime to the gallon.

4. That the American people are preeminently a sugar-eating people. The consumption of sugar, by each individual in our country, is shown by statistics to be about 40 lbs. a year. It is seen at once that the adulterators of sugars and other sweets, not only cheat our people in the quality of what they consume, since glucose contains only from 30 to 40 per cent. of sugar, but injure also the public health, by selling under false names, an article injurious to health.

5. It is as much the right and duty of Congress to enact laws against such frauds in food as it is to enact laws against frauds in money, for if the counterfeiters of money injure the public wealth, the counterfeiters of food injure the public health.

In view of the above facts, your petitioners earnestly request your honorable body to decree that the adulteration of sweets, and the sale of such adulterated products, are crimes against the people, and to enact laws for the suppression of this illegal business.

And your petitioners will ever pray.

☞ The Protective Association Against the Adulteration of Sweets, will mail copies of this Petition free to all applicants, upon the receipt of stamp. The Petition should be posted up in a conspicuous place in the Post-Office, and when filled, should be returned either to the President, CHARLES DADANT, Hamilton, Hancock County, Ill., or to the Secretary, O. CLUTE, Keokuk, Iowa.

For the American Bee Journal.

Dadant Against Himself.

"He that is first in his own cause seemeth just, but his neighbor cometh and searcheth him."

When I wrote before, I had no idea I should convince Mr. Dadant that there were hybrid bees in Italy; neither did I expect he would consent to arbitrate the matter. In the May issue of the JOURNAL he endeavors to reconcile his past with his present belief. Now let us see what influence was brought to bear to induce him to change his mind upon the subject.

When he went to Italy he believed there were hybrid bees there. Sartori confirmed him in this by informing him that Lombardy was the home of the Italian bee, and no where in Italy were the bees as pure as at Milan. Mr. Dadant corroborates this in one of his letters from Italy by saying, "Lombardy is so far the country where I saw the nicest and mildest bees." Here he used his own judgment and eyesight, as he did before he arrived at Milan, or had any conversation with Sartori, for he says in a previous letter:

"I could have bought some queens at Bellinzona, but neither the bees nor the queens pleased me. One of the queens that was shown to me was so dark that she seemed to be exactly similar to a black queen."

This course he pursued all the time he was in Italy, picking and purchasing only those he thought were pure, for in another letter he says: "I saw the bees of Varese; they are no better than those of Mona or Bellinzona. The keeper of the royal palace

who was born and raised in Turin, says that the bees of Piedmont are blacker and crosser than those of Milan. Count Castralani, who is from the vicinity of Naples, told me also that the bees of Milan were more yellow than of the southern part of the peninsula." This additional testimony, with his own, is, I think, sufficient to prove that Sartori was right.

The first reason he gives for changing his mind was he found out that Sartori was only a queen dealer and bought queens from all over Italy. I cannot accept this as a reason why he broke friendship with a man whom he esteemed "very conscientious." What! did he not know that he was a queen dealer and bought queens all over the country? Let Mr. Dadant answer.

"I stay at Sartori's and take care of his bees while he is traveling to buy queens." Again, "Sartori has been out in the country during the beginning of this week hunting for queens for me."

The next reason he gives was because, "Where Sartori had told me that there were impure bees from these I received good queens." Well, what of that? Suppose I told Mr. Dadant that the bees in Ohio were purer and nicer, as a whole, than those in Illinois, would it be detrimental either to my judgment or veracity if he found a few good queens in Illinois? And would that justify him to say that all the bees in Illinois were pure? And would it be reason enough for him to cut my acquaintance and publish me through the JOURNAL? I am credibly informed that the cause of estrangement was business difficulties for the last lot of 50 queens that Mr. Dadant sent for, Sartori would not supply.

Mr. Dadant endeavors to break down the testimony I gave to prove that there were hybrid bees in Italy by saying that Nice is outside of Italy. Yes, it was ceded to France in 1860, and it was in 1855 that F. A. Deus and his three companions made a tour through the country and found black bees at Nice, then in Italy.

Again, he says, "My contradictor has now to rely on Varro, Columella, Virgil and Spinola, all writers of another era, to prove his assertion that the Italian bees are a hybrid race."

Well, if a man does not believe in *truths* and *facts* because they have been handed down to us for thousands of years, I would not give him much credit for intelligence.

I never made the assertion that the Italian bees are a hybrid race! I never thought so; and had he paid any attention to the subject, he never would have said so. It is very unfortunate for Mr. Dadant that he cannot quote correctly. Whether this is intentional, or a careless habit, I know not. I hope he will take in good part, this gentle hint.

With regard to the Italian bee, to my mind, Mr. Dadant misapprehends the whole subject. What is an Italian bee? Mr. Vogel, who, the late Samuel Wagner says, was an experienced and accomplished bee-keeper and breeder, of the Province of Brandenburg, in Prussia, who has probably had more diversified, practical and experimental knowledge of it than any other apiarist, came to the conclusion, from his numerous experiments, that the Italian bee is a cross between the black and the Egyption bee.

Now cross the Italian with the black, and very soon we find queens as dark as the black. I have had queens blacker. Crossing on the black line seems to intensify the color. This is the reason why "the bees in Tyrol are black, and as cross as hybrids."

I have elsewhere stated my belief that the Italian bee was not a very well fixed variety, having, as florists would say, a great tendency "to sport." Pure Italian queens are very rare that duplicate themselves for any length of time; hence the great diversity, not only in color, but in characteristics.

This, in my way of thinking, is the whole subject in a nutshell, solving the problem why pure Italians, at times, are seemingly impure; but once crossed with the black and it will show itself for many generations. I will close this subject by saying that Mr. Dadant, in my humble judgment, has signally failed in his endeavors to break down the testimony I have given in support of my belief that there are hybrid bees in Italy.

Mr. Dadant says, (vol. 8, p. 223,) "I intend to preserve, for Mrs. E. S. Tupper and myself, all the dark queens; for we both very well *know* that the light-colored queens are *less prolific* and less vigorous than the dark."

Again he says, (vol. 14, p. 200,) "We see no difference as to *prlificness* in *dark or light-colored* queens." GEO. THOMPSON.

Geneva, Ill.

Swarming.

W. H. Lloyd, of Wilcox Co., Ala., gives the following as his method:

Early in Feb. he examines all his colonies, giving honey where necessary, and uniting weak or queenless colonies, if any such are found, that he may have all his colonies strong and ready to take advantage of the first opening flowers.

By the middle of March, the bees are growing quite numerous, and beginning to store a little honey, so that he finds it necessary to open the entire entrances; and as honey is his object, he sees that they have plenty of surplus room for storing, in order to keep down swarming as much as possible. But despite all his efforts, he says there will be some swarming; so that by the first of April, he is not surprised on any pleasant day to receive a message to the effect that "the bees are swarming."

In response to this message he at once repairs to the apiary and gets ready for the hiving. If they seem to be irritable, he gives the cluster a thorough sprinkling with water, sweetened with sugar or honey, waits a few minutes until they have sucked themselves full, and then finds all quiet and docile. After seeing that the hive for their reception is clean, cool and dry, he next goes to the colony from which they issued (or another will do) and selects a frame with a nice, straight comb, containing honey and uncapped brood. This he

takes out, brushing back the adhering bees, and replaces it with an empty one. This frame he puts in the centre of the empty hive, covers over the tops of the frames with cloth, to confine the bees to the brood chamber, and proceeds to hive the swarm. He never damages his fruit trees by cutting off limbs, nor does he cut limbs elsewhere unless the cluster is so high as to be out of reach; but with a tin dipper or pan he dips the bees off and pours them down at the entrance, when they go in with a rush. After dipping off all he can, a little jar to dislodge the balance finishes the job. A few minutes waiting for them to get quiet and then he carries the hive to the location selected for it. All this can be done very quickly by a little experience. The frame of honey and brood will prevent the bees deserting their hive, and will secure them against want in case of bad weather. With this straight comb he also secures combs built parallel, and straight combs are of great importance in manipulating the hive.

For the American Bee Journal.

California Items.

EDITOR JOURNAL :—Bee men here must use the AMERICAN BEE JOURNAL for an interchange of their views. It is as much for the interest of the apiarist to have a special medium devoted to their wants as any of the trades or professions.

THE HONEY CROP.

Southern California bee men are now in the midst of their honey harvest; or, perhaps, on the last half. And a pretty correct opinion can be formed of the comparative amount of honey that will be made. As much honey will be made this year as in any former year, in proportion to the amount of bees started in with; but, the great loss of bees last year will bring the actual amount of honey put upon the market far below what it was 2 years ago.

The season has been a month later than an average one, and will continue much longer, especially along the cost. The bee feed here is almost continuous from March until October, and of the very best kind.—Some of our honey-producing plants bloom twice. The mahogany is now in bloom, to some extent, for the second time, and also the barberry. I think it makes very fine honey, but not so white as the sage.

QUEEN LAYING IN BOXES.

It is said by our bee men that there has been an unusual tendency for the bees to swarm this year, and that there has been much trouble experienced with the queens occupying the surplus boxes. I have heard it suggested that it is in consequence of its being unusually cool; the queen chosing the top box because it is warmer. I would like to hear the opinion of some experienced bee men, through the AMERICAN BEE JOURNAL, as to the effect of the honey or division-board between the two boxes, upon the queens using the top box for a brood chamber.

EXTRACTED HONEY.

Much has been written as to the relative merits of comb and extracted honey. It is my opinion that the lovers of comb honey will adhere to their preference for comb honey just so long as extracted honey is put upon the market, slung out of uncapped combs and not evaporated. I was a little surprised, that so good authority as Prof. Cook should recommend bee men to extract their honey before it was capped, and giving no mode of ripening or bringing it to the same state as capped honey; and as an inducement for them to do so, said that the men at the College liked it about as well as capped honey. All I can say is, there is no accounting for people's tastes!

I will admit that it is for the interest of honey-producers to extract their honey before it is capped, for it takes my bees longer to evaporate and cap their honey than it does to store it; and during this time, they are comparatively idle. If I had no means of reducing my honey to the consistency of capped honey, I would prefer to let my bees do it, and take my chances in the market with inferior honey, than to flood it with slops, and then grumble because people would prefer comb honey to extracted.

I have so arranged my Sun Evaporator, (that some have pronounced a failure), that I can, without expense, evaporate all the water from my honey, or as much of it as is necessary. My evaporator is 5x10 ft., and 10 inches deep, covered with sky-light windows, set on an angle of one foot in three; this will take the water off on the under side of the glass, and by springing the glass apart a little at the top, the water will run out on top of the next glass below.

I have made a simple extractor for extracting the drone brood. I uncap it the same as honey, and then throw it out. It makes good chicken feed—not foul brood, but brood for fowls.

COMB FOUNDATION.

I must add one more testimony in favor of comb foundation. We purchased a machine, and after experimenting and making other appliances that should accompany a machine, we succeeded in making good foundation. I think the makers of the machine are not explicit enough in their instructions for the use of it. Perhaps they think to detail fully what is required to manipulate it might deter some from buying.

BINGHAM'S SMOKER.

I sent for one of Bingham's Standard Smokers, and I was so disappointed in its real worth that I immediately ordered a dozen for my neighbors. Every bee man that sees it says get me one, so I have concluded to take the agency for them and keep them on hand.

RETURNING A SWARM.

The 1st of June we had a vere large swarm of bees come out; put them in a box; they immediately went to work making comb and the queen to laying eggs. The third day all came out and went on to a bush. We put them back and they have done re-

markably well ever since. Rather an unusual occurrence, is it not?

THE BEE JOURLAL.

The July number of the JOURTAL has just come and is replete with many instructive articles. It of itself is worth to a bee man a year's subscription.

THE HONEY CROP.

I notice that our friend Levering thinks that the idea that a very large honey crop would be taken in Southern California was started by those wishing to run the market down for a speculative purpose. I think it is not so much that, as that the thoughtless bee men, some of whom are anxious to be known as great honey producers, exaggerate the amount they have taken out. There is no danger but that good honey will bring a fair price. That honey is falling there can be no doubt, for one of our bee men here last night had the platform under a 4,000 pound tank give way, bursting the tank and making a very sweet mess. The ants and other honey-loving insects will think they have found a bonanza.

HOW TO STRAIN EXTRACTED HONEY.

I notice an inquiry in the JOURNAL by W. C. Nutt as to how to strain extracted honey. I will describe my process: First, my honey house is two stories high, the upper floor being but a little above the level of the apiary ground. I do my extracting on the upper floor. I made two square hoppers to fit into a tin can that is about 10x10 and 14 inches deep. One I place upon brackets soldered on half way down; the other on top. These hoppers are 5 inches deep and made of perforated tin. This can I place on the floor to receive the honey from the extractor. A pipe leads from the can out doors into my evaporator. Another pipe takes the honey from the evaporator into the reservoir in the lower room. These hoppers you can call separators if it sounds any better than strainers.

LARGE *VS.* SMALL FRAMES.

I hope William H. Ware's article on the Langstroth hive will bring out the evidence pro and con upon the relative merits of the large and small frames. It is a question I have been going to ask of the old experienced bee-keepers. Perhaps what would be best for a cold climate would not be best for a climate where there is no cold weather to contend with. M. S. BAKER.

Santa Monica, Cal., July 10, 1878.

For the American Bee Journal.

Cyprian Bees.

I have a brother who raised some seedling potatoes sometime within 4 years. He succeeded in getting several varieties. One kind was early, prolific and of an excellent quality. He tried to sell out the lot to a well-known Essex county seedsman. The only fault the seedsman found with them was their close resemblance to the Early Rose potatoes, and so no sale was made.—He said that it would require a great amount of talking to make his customers believe that they were not the Eealy Rose potatoes.

Now, the Cyprian bees may, and may not be a distinct race of bees, but it will require a great amount of talking to convince bee-keepers that they are not Italian bees. I have had the Italian not far from 18 years, and when I saw the Cyprian bees, I could not tell them from the Italians, and I would like to see the man who could.

I have a friend who is now in Europe, and I am looking for 2 Cyprian queens from him by every steamer. Hope to get them so that I can have queens before September.

The Cyprian queen that I saw did not look like a pure Italian queen, as she was not yellow by any means. One little, narrow strip, back of the wings, was all the yellow color I saw about her. The worker bees were very beautiful Italians.

I write the above in reply to about 50 correspondents. The above is all I know about Cyprian bees, and I would like to see the man who knows more.

Wenham, Mass. H. ALLEY.

For the American Bee Journal.

Italians Re-producing Themselves.

It is a well-known fact that pure stock of any kind reproduces itself if increased. Black bees were pure black bees from the beginning, the queens reproducing themselves, males and all, alike. The Italians (as we have learned them) are a distinct variety, having three yellow bands. The queen, if pure, will duplicate herself, with drones and bees all alike. All we have to establish is the color, and my choice of color would be, *let the yellow be the color of gold.* Some recommend Italianizing for the purpose of infusing new blood, and I thought maybe I had overlooked a very important matter, so with my Abbott microscope and glasses on, caught a pretty Italian neuter, and to my shame went to dissecting, with head amputated and heart carved out, "nary drop" of blood was to be found; but I did find a tiny drop of that sweet nectar that helps to gladden the heart of man. A honey-eating people are a happy people. I recommend Italians for their superior beauty, their amiable disposition, their vigilance against moth, their industry in time of drouth; and last, but not least, they mind their own business. ALVAH REYNOLDS.

Oneida, Ill., July 15, 1878.

For the American Bee Journal.

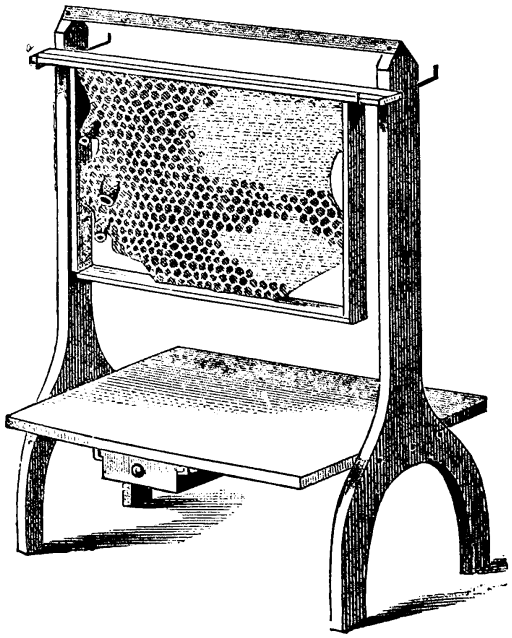
Valentine's Queen Stand.

FRIEND NEWMAN:—I send you a rough drawing of a little piece of furniture I find very useful in the bee-yard. It is what I call a queen stand. The drawing will give you an idea of what it is. Something of the kind is almost indispensable. Other bee-keepers may be using something like it, or perhaps something better; but if not, they should try one. Almost any person can make it.

In examining a hive, unless there is some-

thing on which to hang the first frame removed, it must be set on the ground and leaned against the hive, and you are almost sure to mash more or less bees. In taking out queens, inserting queen cells, etc., it is just the thing.

The uprights are 1½x⅞, 24 inches high; a piece 1 inch square across the top for a handle to lift it by and to hold the top together. Two inches below the top bar are hooks on both sides, so as to hang on two frames if desirable. Four inches below the bottom of the frames (when suspended on the hooks), is a shelf 12 inches wide, to which the uprights are nailed. This makes a nice place on which to lay cages, etc. Under this shelf is a drawer 6x8, that draws out on either side, in which I keep a dozen queen cages, a sharp-pointed knife, and a small crooked-point pair of scissors. The stand is well painted, and a groove cut around the under side of the shelf, so that



VALENTINE'S QUEEN STAND.

water cannot get into the drawer. I always have it in the bee-yard, so that any time I may wish to examine a hive, or anything of the kind, it is near at hand.

Last year I used a couple of hooks held together by an iron rod, and hung on the edge of the hive, to hold frames, but it did not work so well. I had no place to keep cages and tools; could not examine both sides of the comb without lifting it off.

Carlinville, Ill. J. M. VALENTINE.

From Los Angeles Star.

Returning Queens.

As a general rule, when a queen is introduced into a new colony and accepted by her new subjects, she moves on the even tenor of her way. A new departure from this general rule recently came under our observation, when we removed a fine hybrid queen, introducing in her stead an Italian. Not wishing to decapitate her hybrid majesty, we removed her to a queenless colony, some 40 rods distant. Two weeks from that day we examined the colony in which she had been placed, but she was nowhere to be found. She had left slight evidence that the the place that once knew her, knew her no more. We then proceeded to examine the colony in which we had placed the Italian, when we were informed by the apiarist that he had removed her from the cage, dead, the following morning after her introduction. We proceeded, however, with our examination, to ascertain the condition of things; when, to our surprise, we found her hybrid majesty making her wonted rounds, and that the place that once knew her, now knew her again.

A brother apiarist informs us of a similar case in his apiary last spring. He had procured a good Italian queen, introducing her into a black colony, from which he had removed the black queen into another colony, in a distant part of the apiary, having examined his Italian queen frequently after her liberation, and in the full enjoyment of her rights. She remained in her new dominion only for a brief period, as the sequel will show, for in a few days after, on trying to find her Italian highness, he was not a little surprised to find her supplanted by the former black majesty. In order that he might not be mistaken, he examined the colony to which he removed the black queen, and found her missing.—He was able to identify her, so that there was no mistake about it.

These queens, no doubt, felt that they had been "unjustly counted out," and, without waiting for an investigation, resumed the reins of government in their former hives. N. LEVERING.

For the American Bee Journal.

County Bee Association.

Every county, where any considerable number of bees are kept, should have an organization of those engaged in this pursuit, whereby an exchange of ideas may be effected, that new improvements may be brought out and discussed, and failures, if any, talked over, the cause ascertained and its remedy suggested, if possible, that they be not repeated.

So far as I am aware, nothing of the kind has been attempted in this part of Ohio; but, that there is need enough of it, I think is fully shown in the following description of the apiary of a prominent and wealthy farmer which I have recently visited.

A friend who is just becoming initiated into the mysteries of bee-keeping, and, perhaps, growing somewhat enthusiastic on the subject, being desirous of increasing his stock, by purchase, invited the writer to accompany him in visiting a farmer, who had signified his willingness to sell a few colonies.

A pleasant ride of 3 or 4 miles, after a busy day in the apiary, brought us to a well-kept farm and pleasant farm house, with fine out-buildings. All the surroundings indicated the careful and thrifty farmer.

My friend had informed me before setting out on the visit that there were 11 colonies, 5 of which were in one hive,—something, you may be certain, I was anxious to see. On reaching our destination, we found the owner busy, for the time being, but having been directed where to find the bees, we soon found what we took at first to be a pile of dry goods boxes, but which proved, on *close* inspection, to be the "apiary." I wish I could describe it. I can't, and do it justice.

The first hive inspected, we were told, had contained bees for 15 years. I do not doubt it. It was, probably, some patent arrangement, with glass back and door.—The door was now held in place by a piece of rail or fence stake, and the whole affair was so worm-eaten that it would hardly hold together.

We next examined an old box hive, which was being run for honey, having 2 old six-pound boxes on top, for surplus.

But, our curiosity was increasing. The next hive, said to contain 2 colonies, was a large, pine box, more than 3 feet square.—An examination of its interior arrangements showed that it contained one of the aforesaid box hives. It was explained that one colony was in the hive, and the other occupied the space outside the hive in the box; but, as there appeared to be not over a handful of bees outside the hive, the man said they must have all gone in together.—We thought so too. Another box, nearly as large as the first, said to contain 2 colonies, was passed, and we reached the one having 5. We first made an extended tour of the exterior, in search of the 5 entrances. We found them. On one side, 2 holes, an inch long and one-half an inch apart; on the opposite side, 3 holes, an inch apart, made with a small bit; all 5 opening into one and the same compartment, *viz:* that great box. Inside, in one corner, was a small box, which served as a brood nest; while outside and above it, the colony was storing its surplus honey.

What kind of bee-keeping is that? How many such bee-keepers there are all over the country. Perhaps they have not all made as much advance as this one who considered the large boxes with several colonies a great improvement. They look upon bee papers and magazines as many do upon honey—a luxury which they can do without.

I returned home well repaid for my journey, in the increased satisfaction felt as I looked upon the results of my own feeble efforts, but with a determination to do what I could to awaken an interest, which would forever do away with such bee-keeping as that I had seen. WARREN PEIRCE.

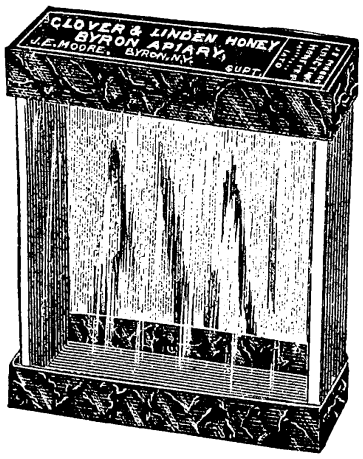
Garrettsville, Ohio, July 19, 1878.

For the American Bee Journal.

The Perfection Honey Box.

I have handled bees more or less for 15 years, and made my first section boxes in 1871; but not having many bees, did not give the matter of boxes much attention. I shipped my bees here from Rochester, Pennsylvania, in July and August, 1875, and have been steadily increasing our apiary until at present we number 117 colonies, besides a number of nuclei. From the amount of time and labor required to glass up our honey in section boxes, I soon found that with many colonies I must have some more expeditious way of glassing, and better adapted to make a complete section honey box, hence my *Perfection Honey Box*, of which the above illustration gives a perspective view.

The box consists, in the combination with the comb frame or section and separ-



ate glasses, applied loosely upon the opposite faces of said frame or section, of caps at each end, which embrace the frame or section and glasses, and hold the whole in compact form. The caps are made of box pasteboard, the rim of which can be made of any desired color, although I confine myself to colors not easily fly specked.—They are made of a size to enclose one or more sections, according to size of box required, also to accommodate any size of section in use.

Some of the advantages of this box are:—The rapidity with which the honey can be glassed and prepared for market. Easy crating and safe transportation is secured. It is the most attractive style of honey box in the market.

We sold our honey last season, put up in these boxes, to Thurber & Co., New York, who spoke highly of the package.

DIRECTIONS FOR USING.

Place cap without label on bench, into which set the section or sections, as case may be; slip a glass down in place on side next operator, then grasp lower corners with both hands, pressing thumbs against rim of cap on side glass has been placed, and forefingers on opposite side of section, pressing well together; this gives room to slip glass down on other side, after which adjust cap having label on top of box.

J. E. MOORE.

Byron, Genesee Co., N. Y.

☞ In 1870 there were 70,000 bee-keepers in the United States. This year the number is estimated at 150,000, averaging 15 colonies each.

The Home of the Cyprian Bee.

In answer to many questions about the Island of Cyprus, we subjoin a condensed description of it, together with the outline of its history. As the Cyprians are now supposed by many to be "the Coming Bee," the following will be interesting to them:

Cyprus is the third largest island in the Mediterranean sea, and considerably exceeds in area both Corsica and Crete. It lies in the north-eastern basin of the Mediterranean, and is about equally distant from the Syrian and Asia Minor coasts. Its greatest length is 145 miles and greatest width 60. The width suddenly narrows in longitude 34°, from whence extends northeasterly a long narrow tongue of land for over 45 miles. A large part of the island is occupied by two mountain ranges, extending in a general direction from east to west. Between the two ranges is a broad plain, known as the Messaria, watered by two streams, but open and uncultivated. Corn is grown in some portions of the plain, and it is believed that the whole of it might be cultivated.

The renown of Cyprus extends through all ancient and modern history, the earliest things known of it dating from the Phœnicians, who inhabited the neighboring mainland and colonized the island. In historical times Greek colonies were found existing side by side with the Phœnicians, but whether they were there before or after them is unknown. Popular legend ascribe the Greek colonies to the heroic period of history, the town of Salamis having been, it was said, founded by Teucer, the brother of Ajax. The Phœnicians introduced the worship of the goddess Ashtaroth, known to the Greeks as Astarte, and identified by them with their own Aphrodite, or the Roman Venus. It is probable that the Greeks gradually obtained political supremacy, though their companions exercised an important influence on the manners, arts, and religious rites of the inhabitants. The first recorded fact in the history of this island is in Herodotus, who relates that it was conquered in the sixth century B. C. by King Amasis, of Egypt. During the invasion of Egypt by Cambyses (525 B. C.) it revolted and declared in favor of the Persians, becoming thereafter a tributary province of that empire. In the wars of Xerxes with Greece it furnished no less than 150 ships to the Persian fleet and was frequently the scene of hostilities. Its cities enjoyed a local self-government, being ruled over by petty kings, of whom there were nine on the island.

After the death of Alexander the Great the possession of Cyprus was sought for by several of his successors, and it finally passed into the hands of Ptolemy, king of Egypt. In 306 B. C. Demetrius, son of Antigonus, made an effort to recover it. He had reduced the whole of it, when Ptolemy arrived with a fleet and laid siege to the capital city of Salamis. This led to one of the most memorable naval fights in ancient history, Ptolemy being utterly defeated. This battle the reader will not, of course, confound with that great fight of Themistocles' at the island of Salamis, on the coast of Greece, near Athens, which took place nearly two hundred years earlier. Until it fell into the possession of the Romans, in 58 B. C., Cyprus had varied fortunes; but for the most part of that time it remained in the possession of the Greek rulers of Egypt. Christianity was introduced by St. Paul, and flourished until thirteen bishoprics had been established on the island. In 117 A. D. the Jews had settled there in large numbers and rose in revolt against the Roman rule, destroying, it is said, 240,000 of the inhabitants. With the division of the Roman empire, Cyprus passed into the possession of the eastern emperors, whose subject it was for more than seven centuries. During that period it was twice conquered by the Arabs, once under the reign of Haroun al Raschid, but it was recovered again each time by the Byzantine emperors.

In 1184 a nephew of the reigning sovereign at Constantinople obtained it as an independent territory, but eleven years afterward it was taken from him by Richard the Lionhearted, who gave it to Guy de Lusignan, the titular king of Jerusalem, to compensate him in a measure for the loss of the holy city. This dynasty governed Cyprus for nearly three centuries, and introduced the feudal system and other institutions of the west. Near the close of this period the Genoese became masters along the seaport towns, retaining it for a considerable period, but they were finally driven out, and the whole territory was united again under King James II. The king contracted a marriage with the famous Venetian lady, Catherine Cornaro, in order to secure the support of the republic of Venice, then in the plentitude of its power. But in a few years the king died, leaving Catherine as regent. Harrassed with jealousies, and feeling unable alone to contend with the growing power of the Turks, she abdicated in favor of Venice, and the island passed at once into the full possession of the republic. This was in 1487.

The Venetians thereafter maintained supremacy eighty years, in spite of the neighboring and warlike Turks. The story of "Othello, the Moor," dates from this period. In 1570 an army of 68,000 Turks landed on the island, but it was not until after a year's seige that the last town was captured. Of the inhabitants of the capital, 20,000 were massacred, and the governor, Bragadino, was tortured to death. Since that date the island has continued in the possession of the Turks, paying heavy tribute to the sultan, and making a history of which little can be said. Two insurrections have broken out, but both were suppressed, one of them being followed by a general massacre of the participants. During the Turkish rule the prosperity of Cyprus steadily declined. Of late years an increasing commerce between western Europe and the Levant has revived her trade in a measure, but it is a long distance yet from being what it is believed Cyprus might become—one of the richest islands in the Mediterranean.

Our Letter Box.

Noblesville, Ind., July 3, 1878.

"The queen which I spoke of last month, as not laying, was barren. She was superseded by a fertile worker, which I have got rid of, by the help of the JOURNAL.—I find it an excellent companion and *adviser*." L. M. WAINWRIGHT.

Cedar Vale, Kan., June 24, 1878.

"I never saw bees do better in any locality. I brought 8 colonies last fall from Henry Co., Ohio, on a freight car, with the rest of my goods; and with all the banging in making up trains at the various stations, they came all safely to Independence, Kansas; from there, I moved them 60 miles by wagon over a very rough road, with the loss of only 4 combs broken down and about one pint of bees. I now have 16 very strong colonies, with combs very full of honey."
D. BARTGIS.

Roseville, Ill., July 1st, 1878.

"We never had such a swarming time with bees before, as we have had the past week; some colonies would swarm, time after time, and we could see no reason for it. We are getting a good deal of nice, white clover honey in small sections. We like tin separators ever so much; they cause the bees to finish each comb more quickly, and can be taken out of the hive sooner than if built without separators; consequently, the honey is very white, and straightly built in the frames. We are using a rack to hold the frames so that all can be lifted out of the hive at once, which is very handy in swarming time."
MRS. L. C. AXTELL.

Camden Point, Mo. July 1st, 1878.

DEAR EDITOR.—"In bee-culture and honey-producing business I am a novice, but have learned enough to assure me that three-fourths of the learned essays and long winded paper theories are but to catch such bugs as I. One year of experience, with a sprinkle of your common sense advice is worth half the *science* extant on the subject to-day. As for patent hives, I have 9 different kinds. If I were starting anew, I would only use two kinds, the Langstroth and A. G. Hill's winter hive. Hill, in my opinion, has made a hit. I like the arrangement for wintering so well. Langstroth is a very cold hive, and great care is necessary to winter safely in this cold, 6 month's winter climate. I have 55 colonies of mixed bees. Some almost pure Italians. I have extracted as much as 90 lbs. from one hive, already. Honey dew has been very heavy this spring; indeed, it never was known to be so great in this part. I have scraped large drops from the leaves of the trees, at 3 o'clock, p. m. And as an evidence of the abundance of honey in the fields, I deliberately placed a large comb of honey on a fence post, in the middle of my apiary, and not a bee touched it for 5 hours. Such a gathering of honey, increase of bees, and a longing after a colony or two, by your neighbors, has never been seen in this country. One fellow (a granger), near here, wanted a start so badly, that he stole an old log gum, full of bees and honey, from the Hon. Jas. Anderson, and carried it a mile; but, poor fellow, he had large tacks in his boot heels, and this betrayed him and he paid rather dear for his cupidity. The Prize Boxes for surplus honey is the trick, (two sides glass;) and such beautiful white honey as I have in over 200 of them would make the Thurber Bros. smile to see it." TOM M. MOORE.

Berkshire, N. Y., June 14, 1878.

Nearly all advertisers of Italian bees claim that they are larger than the blacks, and, of course, can *smell deeper* and *sting louder* than any other bee. If the Italians are larger, it follows that the cells in the brood comb must be correspondingly larger, in order to get the advantages claimed for them. Now, what I want to know is:

1. Does "Italianizing" by simply introducing an Italian queen into a hive of black bees, get those *large* bees with the *long proboscis*? For my part, I don't see how Italians, reared in this way, can be any better than the blacks, since they are reared in the very same cells as the blacks were. I don't believe you can raise a Brahma chicken in the shell of a Bantam! In my way of thinking, the only way to get *pure* Italians, with *all* their advantages over the blacks, is to import whole colonies, and breed from them alone.
2. What is the proper distance between frames, and width of frame?
3. Will plain sheets of wax answer for guides in section boxes?

WM. C. LEONARD.

[1. Certainly, if large bees are wanted, they must be produced in large cells. Those produced in *new* comb are usually much larger than those from old comb. Give a colony a pure Italian queen and some comb foundation, and you will get nice large bees.

2. The proper distance between frames is a little less than 1½ inches—from centre to centre—about 1 7-16 of an inch; about 1 inch being sufficient for the frame.

3. Plain sheets of wax will answer for comb guides very well, but comb foundation is better.—ED.]

Napoleon, Ohio, July 6, 1878.

"The imported queen reached me safely, on the evening of the 3d inst., and is developing into a fine looking queen, and apparently a young one. She is laying, to-day, and I am very much pleased with her, so far. Bees are laying up large stores of the best quality of honey from white clover, and swarming but moderately. Basswood is not yet doing much." D. KEPLER.

Hamilton, Ill., July 3, 1878.

EDITOR JOURNAL:—"Please inform your readers that the Carniolan bees have been tried by us. We have received 3 Carniolan queens alive, on an order of 5. We found them in no way superior to the blacks." CH. DADANT & SON.

Council Grove, Kansas, July 7, 1878.

DEAR EDITOR:—I send you the stalk (in sections), leaves and flowers of a weed or plant growing thickly on a neglected field, of which the bees are very fond. They almost entirely neglect the buckwheat in bloom near by and go one-half a mile for this weed. I was wondering what they found to suit them better than the buckwheat, when I chanced to pass through this field, and the mystery was solved. I saw bees by the thousand extracting honey from the flowers of this weed. Can you tell what it is? D. P. NORTON.

[The plant is *Teucrium Canadensis*, American germander, or wood sage. Prof. Beal tells me that it is common even in this latitude. It is a mint, and thus a relative of motherwort and catnip. These latter, especially motherwort, hold out great promise to the bee-keeper. Ours have been in blossom now for many days, and even after heavy rains, of which we have had many, it would be found swarming with bees, while the mignonette, white, sweet, and alsike clover would be deserted.—A. J. COOK.]

Litiz, Lancaster Co., Pa., July 6, 1878.

"The Bee Association, of Lancaster Co., Pa., will hold its next regular meeting in Lancaster City, on the second Monday in August. We shall meet at Centre Square, at 1 o'clock, p. m., where our friends who are interested in bee-culture will be cordially welcomed. Many matters of interest will be discussed, and the meeting will, no doubt, be profitable as well as interesting.

The wet season has been somewhat unfavorable, but bees generally are doing well. Among my own bees, I have at one place 18 natural swarms from 15 colonies of bees. Others are not doing so well, but taking all things into consideration, we can not complain." P. S. REIST, *Pres't.*

Wesley, Ind., July 5, 1878.

"Bees are doing well. I never saw such a crop of white clover as there is this summer, and bees are very rich in stores of honey. I had 8 colonies in the spring; now I have 24, 2 having gone to the woods.—They are all black bees, but I want to Italianize them all next summer from the queen you are to send me." S. QUICK.

Spafford, N. Y., July 14, 1878.

"I wintered my bees successfully last winter; a part on their summer stands, and the remainder in the cellar. All came out strong, with the exception of 2 that lost their queens. April was warm, with bees apparently ready to swarm. May was wet and cold, which put them back; they destroying most of their drones. But June and July has been warm, with white clover in abundance; and now basswood is opening and they are all the time at work when it is light enough for them to see. I had 30 colonies in the spring; have had over 40 swarms from them."

EDWIN S. EDWARDS

Davis, Mich., July 8, 1878.

"The imported queen was duly received in good order. I placed a wire cloth over the shipping box and put her into a hive about 5 hours; then I liberated her. She was accepted, and is now doing a good business. I am well pleased with her."

WM. P. EVRITT.

Geneva, Ill., July 15, 1878.

"When I had to feed my bees up to the middle of June, I felt a little discouraged; but, I tell you, they are now making up for lost time. I never saw them working as well as they do now. Success to the bees and the AMERICAN BEE JOURNAL."

GEO. THOMPSON.

Strawtown, Ind., July 15, 1878.

"Our imported queen stock have outstripped everything, far or near, in gathering honey. One colony has gathered 115 lbs. of comb honey; another gave 75 lbs. and one colony. Quite a number have gathered from 75 to 80 lbs. of comb honey.—It has been a splendid season for honey.—The 'crate' is a grand success."

JOHN ROOKER.

"It is said, if we take a queen away from a colony of bees they will rear another queen. Last Friday, I took a queen from a good half colony; she had been there and laying for three weeks. There were lots of young bees crawling on the comb, eggs and larvæ in all stages, when I took the queen away. I thought I would let them raise a queen from her brood, for the bees looked so nice. The next Friday I looked to see how many cells I had. Imagine my surprise when I looked but could find no signs of any. The brood was nearly all hatched out. I thought it could not be possible that they had no queen. I put in a ripe cell, and the next day it had a queen.—The cell was uncapped as naturally as could be. Did you ever hear of the like?"

A NOVICE.

[We have never known of a queenless colony to refuse to start queen-cells, if given the opportunity. The only way we can explain the above would be to suggest that the observation was not thorough, and that a queen-cell had been overlooked.—ED.]

Grandville, O., July 18, 1878.

"Our bees are doing splendidly this season. Will get over two tons of honey in the 'Union Apiary." The 'French Pavilion' gives us up to this time 1,500 lbs. of extracted honey; 'Carpenter's Hall,' over 1,000 lbs. of extracted honey, and 'Sugarloaf Apiary' has been run mostly to small sections; about 800 lbs. thus far. I think we will find a local market for all our honey at 10 to 15 cts." W. H. SEDGWICK.

Light Street, Pa., June 20, 1878.

"Cook's Manual came to hand, and I am well pleased with it. It fills a want in bee literature that was imperative. Bees have had a very poor spring up to about a week ago, when it got warm, and now they have a plenty of white clover to work on. They

got nothing from apple and cherry blossoms, on account of wet and cold, and only enough from the raspberries to live on.—Hope from now on it will prove a good season." H. H. BROWN.

Wethersfield, Conn., July 12, 1878.

"The imported queen you sent me has arrived. I introduced her and she commenced laying immediately. I am much pleased with her, she being large, active and handsome. Apparently she is A No. 1. Bees have been doing first rate for the past 14 days, working early and late. Since warm weather commenced (June 27th), it warmed them up and they have been working with full force. The indications are now very encouraging for a good yield of honey this season." F. I. SAGE.

Smith's Grove, Ky., July 8, 1878.

"We depend mostly on natural pasturage for our bees, but have growing now about one acre of melilot clover and a small patch of borage, and the bees are reveling in clover by thousands. It grows from 4 to 7 feet high, and has millions of small, white blossoms, rich with honey. It is biennial, not blooming the first season, and dies after it blooms the second season. It has no value except for honey. It blooms from the middle of June to the middle of July.—Borage blooms from July till frost. We raise turnips for early bloom for our bees, from which they gather honey and pollen, and *sometimes* sow buckwheat for late pasturage; but our crop of honey is gathered principally from the poplar and linn trees and from white clover."

N. P. ALLEN & SON.

Columbus, Kansas, July 3, 1878.

"Please name enclosed plant. Bees work on it from morning until nignt. It appears to grow wild on the prairie, and affords a good deal of honey, but of poor quality."

H. SCOVELL.

[This is the mountain mint, or *Pycnanthemum lanceolatum*. Another name for plants of this genus is basil. As will be seen, this is a mint, which leads me to say that our beds of motherwort and catnip are now in full bloom, and the flowers, especially of the former, seem to lose none of their attraction for the bees, even though the rains are frequent. The same is also true of the mustards, which are now crowded with bees. Brother Fisk Bangs has sown several acres of mustard, which will come into bloom about July 20th, so that he may test the quality of the honey, as also the policy of sowing this as a special plant. Our sweet clover and mignonette are now fragrant and noisy with bees. A. J. COOK.]

Waterloo, Pa., July 15, 1878.

The imported queen you sent me came to hand on the 8th inst., and is doing well. Bees in this locality are doing well—have stored more honey within the past 3 weeks than I ever knew them to do in the same time before. White clover never was better, and perhaps never continued so long. I am rearing queens more extensively, and with greater care than ever before. I have the choicest of drones and superfine breeding mothers. I would not and could not do without the BEE JOURNAL for three times its price. J. E. KEARNS.

Arkansaw, Wis., July 14, 1878.

DEAR EDITOR:—We have at present 103 colonies of bees in 4 different styles of frame hives, all doing well. Bees wintered well in this locality, coming out strong, but are not swarming any yet. Two apiaries close by us, of 23 colonies each, have not had a single swarm yet. What is the cause? Have made but little honey as yet, but seem to be doing well. We purchased 26 colonies of bees this spring in different styles of hives; had a swarm from each which are doing well; have just finished transferring. I had them in six different styles of hives but prefer the Langstroth. I intend to use such altogether next year. I found the comb foundation a present help in time of need; I used 25 lbs. with good success. This is my experience with the foundation. I have doubled my stock by its use, while my neighbors in the bee business have just as many colonies as they had when working season commenced, and no more, and in no better shape than ours are now. We are young and have a good deal to learn yet in bee culture, but thanks to your valuable BEE JOURNAL, we are none behind our bee-keeping friends here in this section. I think by the aid of your JOURNAL, I shall understand the little busy workers pretty well by the time this season is over."

JONES & STILLMAN.

Callaway Co., Mo., July 18, 1878.

"Our bees are in most excellent condition—strong in numbers and rich in stores. The early spring, and the abundant fruit bloom stimulated the rearing of an unusually large amount of brood, but the chilly weather in April and May caused them to draw on their old stores till many had to be fed, to prevent starvation. June brought the white clover with its abundance, and about June 20 the aphides made their appearance on the hickory leaves, since which we have had a copious 'honey-dew.' The insect is yet abundant, and doubtless the 'dew' will remain some time yet."

GEO. HAMILTON, M. D.

Holyoke, Mass., July 18, 1878.

FRIEND NEWMAN:—"My bees dwindled in the spring, but they have rallied their forces and are now doing well. Others report favorable. The JOURNAL comes regularly, and I hail it with joy. It is the best and greatest light we have on bee culture, bringing ideas, not only from the editor, but from all the other experienced bee men of the land. I send you herewith a small specimen from a tree that grows in this valley; it is the only one that I know of in this region. It was brought here and set out by a rich gentleman, some 25 or 30 years ago, and is now a foot through at the butt, over 30 feet high, and of beautiful form.

It is now covered with little balls or seed like the sample. I would like to know its name, and where they are procured. When in bloom, it is very fragrant and very attractive to bees, and was consequently covered with them. It remains in bloom 2 or 3 weeks." LUTHER A. TABER.

[It is basswood or linden, *Tilia Americana*. As a honey producer it has no superior.—ED.

Ragersville, Ohio, July 22, 1878.

MR. EDITOR: —As I have just started an apiary, I concluded, after looking at the various bee hives, to use the one recommended in Cook's Manual of the Apiary, which in reality is the Simplicity Bee-Hive. What I want to know is this—Has N. C. Mitchell, of Sandusky, Ohio, a patent thereon, or is his patent upon the division boards? Can I make the hive recommended in Cook's Manual, and use the division board without being prosecuted by said Mitchell?—as his advertisement is sufficient to scare a novice into fits if he makes use of said hive and division boards. By replying in the AMERICAN BEE JOURNAL you will oblige,

DR. H. J. PETERS.

[There is no patent on Prof. Cook's hive, as represented in his Manual—nor on the division boards.

N. C. Mitchell has a patent on the adjustable hive and a division board combined with rubber or cloth strips at the sides, and "lugs" at the bottom. A plain division board is neither patented nor patentable.

You need not fear trouble from any quarter for making the hive and using the division board recommended by Professor Cook.—ED.]

☞ Everybody now report comb foundation a success in every sense of the word. That with wire incorporated into it for the breeding apartment is also reported to be a success, and is advertised in this JOURNAL. We shall also fill orders for it.

HOW TO WINTER.—Those who wish to post up on the subject of wintering, will do well to read Prof. Cook's essay as read before the National Convention of 1876. —Price 15 cents.

GONE.—Another of our little squad—slowly trudging up the hill, has fallen by the wayside.

CHARLES HASTINGS, of Carlisle, Iowa, died on the morning of July 5th, 1878, in the 54th year of his age. For many years he followed our favorite pursuit in this country; and in him we lose not only a most skillful operator, but one of the fearless thinkers of the age. A man *without superstition*, in the broadest sense of the term,—has left us. Years ago, he had the reason and courage to exchange popular religion for liberty, charity, and justice. Freed from the frightful chains of superstition, he departed as serenely as the coming of dawn. Among his last words were: "I have no fears of the future." In the broad arms of our Mother Nature, that he loved so well, we leave him to rest.

Dowagiac, Mich., July 12, 1878. JAMES HEDDON.

Business Matters.

TERMS OF SUBSCRIPTION.

Single subscription, one year	$2 00
Two subscriptions, sent at the same time	3 50
Three " " "	5 00
Four or more, " " "	..each, 1 50

Advertisements will be inserted at the rate of **20 cents** per line of Agate space, for each insertion, cash in advance. One inch measures fourteen lines.

Special Notices 50 cents per line.

☞ A line will contain about eight words; fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

Notice to Advertisers.—We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed, and such advertisements discontinued. No advertisement received for less than $1.

Address all communications and remittances to

THOMAS G. NEWMAN & SON,

974 West Madison St. CHICAGO, ILL.

TO CORRESPONDENTS.

When changing a post-office address, mention the *old* address as well as the new one.

We send the JOURNAL until an order for discontinuance is received and all arrearages are paid.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways.

When ordering Extractors, give outside dimensions of frame or frames to be used, length of top-bar, width and depth of frame just under top-bar.

In consequence of the dearth of small currency in the country, we will receive either one, two or three cent stamps, for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us three subscribers to THE AMERICAN BEE JOURNAL with $0.00. Premium Queens will in every case be tested, but not sent till after July 1st.

Write name and post-office address plainly. If there is no express office at your post-office address, be sure to give your nearest express office when ordering anything by express. Give plain directions how goods are to be sent.

Seeds or samples of merchandise can be mailed for one cent per ounce, Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arragements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order,** for all Apiarian Supplies.

Bingham's Smoker Corner

Will contain a short card from some one every month. See Bellows Smoker card on another page.

☞ It is just to say that no letters have ever been *solicited* which have been or are *now* put in this Corner, and that we have many more, from the most *conspicuous* parties, also unsolicited.

Thanking the public for their liberal patronage, which I have tried to merit,

I remain, very truly, T. F. BINGHAM.

P. S.—Parties wishing a very superior knife for uncapping, will see advertisement elsewhere.

Galesburg, Ill., July 13, 1878.

I received the smoker you sent. I am well pleased with it, and could not very well get along without it I use corn-cobs for fuel, and find them superior to anything else tried. I was called on yesterday by two parties to transfer 5 colonies that were in old box hives, and the consequence was the above orders for the Bingham smokers. As soon as men use them they see their usefulness, and, as a matter of course, must have them. H. BROWN.

Santa Monica, Cal., July 1, 1878.

J. F. BINGHAM—*Dear Sir:* On receipt of your letter and the smoker, I wrote yesterday, but had not tried the smoker when I wrote. To-day I have been trying it, and I am so disappointed in it that I thought I would write you again. Well it is a *perfect little giant*, and fills the bill to perfection. My partner had not used it one hour before he said (in his enthusiasm over it), he would not do without it for five dollars a month, and three or four bee men have already seen it, and all want one as soon as I can get them. So you may send me one dozen—half standard and half large size. They are in so much of a hurry that I did think of telegraphing for them, but thought that would take off the profit. I think I can sell one to every bee man I show it to, but they must see it work before they will be satisfied, for there are so many humbugs, and it is so easy to get recommendations for anything. Yours truly,

M. S. BAKER.

CHIPS FROM SWEET HOME.—Mrs. P. says: "Palmer, here's your smoker." "All right," says I. Fifteen years ago I used rags, thought they were good; eight years ago I found rotten or dozy wood excellent, and to it we hung, thinking that we wanted nothing better, although I did nearly burn up 2 colonies; it was dangerous, for buildings as well as hives might be burned up; it smoked my eyes, making the water run at times freely. I used to make myself dizzy, till I learned how to blow. But rotten wood was good, I had used it for years. Last season I did think that I would get a smoker this spring, but seeing Lock using one, and it was used to such a poor advantage, that I concluded rotten wood was best. Two of my neighbors having bought lately, I concluded to try one, for they said they would not be without one if it cost $5. Their's was Bingham's smoker. As soon as I got a bunch of bees *barreled*—not hived, for I put them in 2 barrels, for there were 9 swarms in that pile—I set the smoker going, and soon Mrs. Sweet Home says: "How do you like your smoker?" I answer: "Ten times as well as I expected. I can work much faster, easier and pleasanter. Italian bees, double-entrance Langstroth hive, prize box sections, separators, glass, extractor, foundation and a Bingham smoker, makes beesness!" Send me 4 more. D. D. PALMER.

Wethersfield, Conn., July 12, 1878.

T. F. BINGHAM, ESQ.—*Dear Sir:* A little over one year ago I bought of es "Square" Newman one of your small smokers. I have used it in transferring over 100 colonies of bees, and for months have had it in use daily in my bee yard, some days using it 8 to 12 hours. I have used other smokers. but much prefer yours. Still, I have made a great improvement on them: I should make it exactly like yours, or at least retain all its important features, and would paint them red, white and blue, and, notwithstanding the paint might be a disadvantage, I would *call* it an improvement, and would then like to see the man who would dare say I was not a public benefactor.

Respectfully yours, F. I. SAGE.

In justice to A. J. King, I would say that since the issue of my patent, he has not made or sold Bingham smokers to my knowledge. T. F. BINGHAM.

Los Angeles, Cal., July 12, 1878.

Bingham smoker received, and been in use nearly every day since, I endorse all said in its favor. It effectually prevents the danger of fire in the apiary.

Respectfully, WM. MUTH-RASMUSSEN.

Mohawk, N. Y., 20th December, 1877.

MR. T. F. BINGHAM—*Dear Sir:* Inasmuch as others who have so voluntarily considered the smoker matter, have so thoroughly ventiiated the same without any marked interference from you or myself, I decide to come to you with the matter, and mention some points that are of marked interest to me. As you are well aware, the smoker cost our family much money and labor before it came to the public in anything like practical form. As is ever the case, the placing the first imperfect article upon the market, injured the sale of the better ones that followed. Father Quinby was urged more than you can know to patent the invention, but with his views of the matter, he could not be induced to do so. You are, of course, aware that if the connecting the upright tube to the hand-bellows had been patented by him, he would have had the control of the smoker. In the cut-off between the bellows and tube, you have given the smoker a marked improvement.

Through father Q.'s interest in the cause he loved, you have had the main features of the smoker handed to you. In the manufacture of smokers for another season, I desire to use the direct draft. In form I do not desire to copy your smoker. I am told you have applied for a patent. Is this the case? Whether so or not, I am controlled by a different motive than man-made law. I am not inclined to play "King" in the matter.

Please let me hear from you at once, giving me your views freely. Yours, resp'y, L. C. ROOT.

Honey Markets.

NEW YORK.

There is no change in the condition of the market during the past month, and prices are still quotable as follows:

Buckwheat Honey—comb	8 to 12c
Strained or extracted	8 to 10c
Clover—in comb	15 to 25c
" extra	8 to 12c

H. K. & F. B. THURBER & Co.

CHICAGO.

HONEY.—The current quotations for good to choice comb, are ranging at 12 to 15c. ℔ lb; common and dark colored lots at 8 to 10c. and choice extracted honey at 7 to 9c.

BEESWAX.—In fair request at 24 to 26c. per lb. for prime choice yellow.

CINCINNATI.

COMB HONEY—In small boxes, 12@15c. Extracted, 1 lb. jars, in shipping order, per doz., $2.50; per gross, $28.00. 2 lb. jars, per doz,, $4.50; per gross, $50.00.

C. F. MUTH.

CALIFORNIA.

HONEY.—With the loading of wheat ships for European ports, honey moves. Buyers for those ports pay 6@6½c. for the best extracted, which seems at present to be their limit. Our market to-day we we quote as follows: Comb, white, 11@13c.; comb, dark to medium, 8@11c.; extracted, 6@7c.

BEESWAX.—26@28c.

STEARNS & SMITH, 423 Front St., San Francisco, Cal.

New Quinby Smoker Column.

It is but just to call the attention of bee-keepers to the fact that those who compare the Quinby with the Bingham Smoker, refer to the last year's Smoker, and not the better one I am selling the present season. See advertisement in another column.

L. C. ROOT.

Canajoharie, N. Y., July 17, 1878.

After selling a large number of your smokers, we are gratified to know that they give general satisfaction. We keep all the prominent styles in stock, and whenever a visitor buys one, he always selects the New Quinby in preference to any other.

J. H. NELLIS.

Wenham, Mass., July 10, 1878.

I have thoroughly tested the smoker. It works like a *charm*. Everything about it is perfect. They are made in a thorough and workman-like manner. I consider ii the best smoker in use. H. ALLEY.

THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

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Contents of this Number.

EDITOR'S TABLE:

Editorial Items.....289 to 305
Beauty Spots..... 289
Queens Duplicating themselves..... 290
Our National Convention..... 291
Bee-Keeping in England..... 292
Honey Pamphlet..... 293
Angered Bees..... 293
Artificial..... 293
Shipping Goods by Express..... 294
Bee-Hiving Extraordinary..... 294
Bees and the Mails..... 294
California Honey Crop..... 295
Cook's Manual of the Apiary..... 295
The Paris Exposition..... 299
Honey Used for Cooking Purposes..... 303
Extracted vs. Strained Honey..... 305

MARKETING HONEY:

Sundry Items..... 296

FOREIGN NOTES:

Honey Vinegar..... 297
Do Queens Lay Drone or Worker Eggs at will? 297
Rotary Bee Hive..... 297
Introducing Queens..... 297
Comb Foundation..... 297
How to get Ants out of Hives..... 298

SOUTHERN NOTES:

Improvement of Bees..... 305
Matters and Things in Alabama..... 306
Eggs in Queen Cells..... 306

CORRESPONDENCE:

The Aphides or Plant Lice..... 307
Basswood—the "Off-Year"..... 307
Lecanium Tulipifera..... 308
An Old, Old Hive..... 309
Wild Bees..... 309
Catching Bees in a Rabbit Trap..... 309
The Wren as a Bee Protector..... 309
Wild Onion as a Honey producer..... 310
The Purity of the Queen..... 310
Motherwort as a Honey Plant..... 310
Standard of Purity.....311, 314
Wax Extractor..... 312
Visit to Oatman's..... 312
Visit to T. S. Bull's Apiary..... 312
Bee Tea—a Valuable Medicine..... 313
Surplus Boxes..... 314
Sending Bees by Mail..... 313
Chips from Sweet Home..... 315
"Our Homes" in Gleanings..... 315
Bee Killer..... 316
How shall we Know when Italians are Pure?. 316
The Adulteration of Sweets..... 317
Constitution of the National Society..... 318
Various Items..... 318
Queen Rearing..... 318
Exceptions to General Rules..... 318
Two Queens in One Hive..... 319
Mitchell's Patents..... 319
Comb Foundation..... 319
A Cheap Wax Extractor..... 319
Honey Dew..... 320
Central Kentucky Blue Grass Convention.... 320
North-eastern Wisconsin Convention..... 320
Beeswax Ointment..... 320

OUR LETTER BOX:

Sundry Letters.....321 to 323

Editor's Table.

BEAUTY SPOTS.—From the Rev. A. Salisbury we have received a beautiful Italian queen, with three spots on her back; the one on the tip of the body rather obscure in the dark rings, so common on queens. Her progeny are really beautiful to look upon, and she is exceedingly strong and prolific. Friend Salisbury has some of the very choicest stock, and this is one of his best.

☞ Through the kindness of Messrs. Thurber & Co., of New York, we have a copy of a "Manual of the Apiary," in Italian, by Luigi Sartori, of Milano. It contains 530 pages, and has many useful items which we shall translate and publish in the JOURNAL from time to time. It contains, among other things, many receipts for manufacturing articles with honey, such as confectionery, &c.

Also from M. Hamit, editor of *L'Apiculteur*, of Paris, a Bee Dress, made of steel wire and cloth; added to our museum.

☞ On the night of Monday, Aug. 19, some vile wretches wantonly mutilated and destroyed 51 colonies of bees, belonging to Mr. George Grimm, son of the late Adam Grimm, of Jefferson, Wis. The hives were discovered next morning tipped over, and many of them smashed up, and the colonies ruined. Mr. Grimm was absent from home; his uncle, Christopher Grimm, took care of the bees, doing the best he could to repair the damage, and offers a reward of $100 for the conviction of the miscreants.—It would have been well had they been caught in "man traps," and left to the mercy of the bees themselves. We fancy they would have seen chain-lightning—lots of it—and would never have wanted to disturb bees again.

Queens Duplicating Themselves.

This subject should now be thoroughly discussed, tested, and settled. Friend Moon has sent us the following proposition, which should be accepted by those who claim that pure queens will invariably duplicate themselves in their queen progeny. Friend Moon says :

Rome, Ga., Aug. 14, 1878.

Our remarks in the AMERICAN BEE JOURNAL for August, about queens duplicating themselves as to color, in their queen progeny, has caused quite a sensation with some queen-breeders. They have written us that they have queens that will duplicate themselves every time in their queen progeny. Mr. Editor, its barely possible that they have some of friend Gravenhorst's "Princesses." We certainly hope so. While we claim to breed the Italian bee in all its purity, and as fine as are raised in this country, we must confess, that if any of our friends have got such queens, they are certainly ahead of us.—We were once taught that "it is not all gold that glitters;" so we think of queen rearing. We will now make the following proposition :

To the person who will send to the Editor of the AMERICAN BEE JOURNAL a pure Italian queen, that will duplicate herself every time, as to color in her queen progeny —we will send two good colonies of pure Italian bees.

THE TEST.

The Editor, to whom the queens are to be sent, shall raise twelve queens from the queen sent, and in case the twelve are all of a uniform color, a *fac simile* of their mother,—the person sending such queen shall receive, from us, two pure colonies of Italian bees.

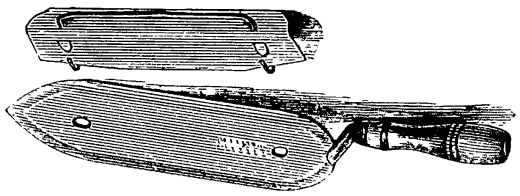
In case they are not all alike and of uniform color, the one accepting the challenge shall send to the Editor, for his trouble, five pure, tested queens. Let those who have these princesses now come to the front, or haul in their flags. A. F. MOON.

☞ At the Burlington Convention we were awarded a "Cyprian" queen, to be sent us by Mr. Haines. He sent four—three were received dead and returned, and the one that was received alive is a vile "hybrid," which we also returned; her presence in our apiary was offensive—all else being pure. She was of fine appearance, and in last month's JOURNAL we called her "Italian," assuming her "innocent till proved guilty" by her progeny.—If Mr. Haines has any pure stock, we have yet to learn the fact. We have received many complaints of the vile trash he is sending out. A mistake may sometimes be made by the best of us, but we fear the greatest *mistake* yet made, was to give credence to any of his statements.

☞ The Minnesota State Agricultural Society will hold their Twentieth Annual Fair at Saint Paul, on September 2d, 3d, 4, 5th, 6th, and 7th. We acknowledge an invitation to be present, but shall not be able to attend. We hope honey-producers will have a good Honey Show there.

☞ Friend W. H. Ware, of Bayou Goula, La., suggests that the time for Reports to be sent in for the South, should be extended to Dec. 1st, so as to include the year's business in that region. Accordingly, we extend the time for the Southern States to Nov. 15th, when we hope full reports will be sent in.

☞ Bingham and Hetherington have made an addition to their Honey Knives.—It consists of a tin back, fastened to the Knife by a wire clasp hitching into the holes, as seen in the cut. This movable-



back is intended to hold all the cappings on the knife, and is to be used by those who lay the comb flat on a table when uncapping. Others can take it off in an instant and use it without. We have just been using it, and find that it works like a charm. The beveled edges facilitate the use of the Knife, and are quite an advantage, saving both time and labor.

☞ By the *Bee-Keepers' Magazine* for August, we learn that friend A. J. King's health is still very poor. So much so that he is unable to attend to business. He remarks that the business of the office he has placed into good hands. We hope he will soon recover.

☞ Friend Martin's small honey package, advertised on another page, is a nice thing—and will sell lots of honey to children. It is a novelty—and a blessing at the same time, as it gives the children healthy sweets in place of the poisonous candy sold by confectioners.

☞ The Sorrento Saw for attaching to any sewing machine, advertised in another column, is a nice thing, and may be seen in our Museum.

Our National Convention.

One fact that stands out conspicuously upon the threshold of our honey interests, and confronts us with its importance, if we wish to open the eyes of the world to the superiority of our product, is the marketable shape of our packages, and the general advantages of an American market. We should patronize our National Convention more, and encourage the Honey Show established in connection with it, in every possible way.

We should never permit another opportunity like the present Paris Exposition to escape us, without exhibiting to the world the wonderful perfection of our system of management, the excellence of our honey, and the great resources of our country.

We call particular attention to the following notice by the Executive Committee calling the Convention:

Executive Committee of the National Bee-Keepers' Convention, P. O. Box 3895, N. Y.

To the Bee-Keepers of the United States:

We respectfully invite your aid and co-operation in enlarging this organization, until it shall include in its membership the name of every honey-producer and other person interested in the development of this great industry. Every trade, occupation, profession, or industry in the literary, moral, or material pursuits of life has its guild, union, or association, whose purpose it is to foster the interests of the class they represent, and these organizations have been found powerful and efficient agents. The honey interests of this country are co-extensive with our land and employ thousands of laborers, requiring for its development a large amount of capital, and forms the basis of prosperity for a large circle of people, and by effective organization its improvement can be greatly fostered and maintained. A large class of bee-keepers in the United States have been standing still in bee-matters while others have moved on and produced a greater abundance and at a less cost. By organization we are better able to disseminate accurate information concerning the crops, the best methods of cultivation, the latest improvements in hives and implements, and their effectiveness, and can advertise our products, and impress upon the world the magnitude and importance of the pursuit we follow. The printed reports of these gatherings, published as they are in the leading periodicals of the land, are powerful public instructors, and in no other way can we secure this great assistance so well as by organization. The representative system would place our National Association on a firm basis and develop its usefulness exceedingly. We hope to secure a large attendance of delegates from local organizations. These delegates can easily be sent if the societies will bear a portion of their expenses. Please give this matter prompt and hearty attention.

The annual convention of the National Bee-Keepers' Association will be held in the Cooper Union, New York City, commencing 12 m. on Tuesday, the 8th of October, 1878.

The exhibition of bees and their products will be held at the American Institute. All exhibits intended for this show should be directed to the National Bee-Keepers' Association, care H. K. & and F. B. Thurber & Co., N. Y., who will receive and place them in position. Although we have been granted liberal space, we have reason to think every inch will be occupied; therefore applications for room should be forwarded at once to the Executive Committee of the National Bee-Keepers' Association, P. O. Box 3895, New York City. No applications for space will be received after September 20, 1878. Bee-keepers who cannot attend in person will please forward us all the interesting information they can at once. Working bees can be exhibited, and arrangements made for their flight. Answers will be cheerfully given to specific inquiries.

Respectfully,

EXECUTIVE COMMITTEE,
Bee-Keepers' National Convention.

We would suggest that, this fall, everything calculated to interest, not only bee-keepers, but the great outside world, in our branch of industry, be contributed to the National Convention. To bring up prices, every outlet for our honey must be cultivated, and every method of advertisement taken advantage of. Petty prejudices should be sunk and the hearty co-operation of all honey-producers given to this enterprise. Bees and their products, in every conceivable shape and style should be shown; photographs of apiaries and leading bee-men, as well as various kinds of models, observation hives, &c., will add largely to the interest and appearance.

We understand that ample provision will be made for exhibiting all such things; and we have no doubt that the exhibition of honey and attending the Convention and honey show will attract a great many apiarists to New York, this season. We understand that there will be no medal offered, but a very beautiful recognition in the shape of a diploma will be awarded to meritorious exhibits.

Bee-Keeping in England.

We are exceedingly pleased to notice the rapid strides that are being made in England towards a degree of perfection heretofore undreamed of, for stately Old England, in the scientific management of bees. That excellent periodical, *The British Bee-Journal* fairly bristles with the subject of advancement in bee-culture, and rational and scientific management. Bee and Honey Shows are abounding in almost every county, while the National Society, called the "*British Bee-Keepers' Association*," shows a wonderful state of prosperity. Its lady President, the liberal and very popular Baroness Burdett Coutts, has subscribed $125.00, and its energetic honorary Secretary, the Rev. Herbert R. Peel, has subscribed $100.00 towards defraying the expenses of the Honey Show, which took place last month, in the Royal Horticultural Gardens, at South Kensington, London. All England seems to be *alive* on the subject of "How to produce the best honey in the most marketable shape." The present number of members of its National Society is about 160, and the plan adopted as to membership is quite interesting. It presents a key to financial "success," as well as how to get up an interest in bee-culture that cannot fail of being abiding. It is this:

Those members whose annual subscription is $5 and over, are eligible for election on the Board of Directors or Managing Committee, while all others are entitled to one vote in such election, for every dollar subscribed.

They have a tent erected, and in it the various manipulations of the apiary are performed competitively.—A circle of twenty feet in diameter in the centre being devoted to the manipulations, while a promenade of six feet wide, encircling it, is reserved for visitors. This presents an idea for our National Society to think about—something that will give it an impetus, heretofore unheard of.

These manipulations are just the thing to create an interest, to bring together not only the experts, but those who need instruction in scientific management.

We feel assured of this, by the experience of the past year, in the apiary of the AMERICAN BEE JOURNAL, in this city. How often do we find one of the greatest attractions for our visitors to be allowed to witness manipulations with our bees! Some have had but a limited experience with Italians; others as limited an experience with the manipulations of the apiary, especially upon scientific principles. And often, as they retire, do they say—"It has been the greatest treat of my life. I am delighted with what I have witnessed in the apiary, as well as in the Museum of modern appliances."

We do hope our National Society will, at the next meeting, take advance ground and either foster, encourage or inaugurate an Exhibition, not only of apiarian implements and honey, but also of manipulations with bees. Officers with energy and ability to manage can easily be secured, who will make the Honey and Bee Show a success, from its very inception. It *can* be done, and, we think all will say, it *ought* to be done.

Would it not be well for the National Society to offer medals as prizes, to be awarded at the Honey and Bee Shows of the different State and District Associations within its limits?

What do bee-keepers say about these crude thoughts? We shall esteem it a favor if those interested will, within the next 10 days, send us their opinion. Being Secretary of the National Society, we will collect, classify and present them to the Society at their meeting next month, and endeavor to have the Society inaugurate some good, *practical* work, in this direction. We hope to obtain hundreds of responses to this request within the next ten or fifteen days. What is done must now be done quickly. If our ideas are of any value, back them up—if not, kindly

show us the "more excellent way."—This we ask, especially as we desire the welfare of the Association and the advancement of bee-culture.

HONEY.—The *Baltimorean*, of Baltimore, Md., reviews our pamphlet on Honey, and after enumerating the contents, adds: "We learn from this pamphlet much about honey which it would be well for mankind generally to know. Pure honey should be always freely used in every family, and honey eaten upon wheat bread is very beneficial to health." The *Baltimorean* is right—it WOULD be well for mankind in general to know it; and thus save much of the sickness and suffering now prevalent in the world.

ANGERED BEES.—G. Henderson, of Ealing, England, gives the following instance of bees wreaking vengeance on an innocent hen and seven chickens, for supposed injury to their hive. In the *British Bee Journal* for July, he says:

"On returning home about mid-day, a short time ago, I was informed that my bees had, during the morning, been guilty of a sad misdemeanor. A hen with seven, fine, healthy chickens, under a coop, had been placed within two yards of one of my hives. Suddenly the bees had rushed out and attacked their unoffending neighbors, stinging them most mercilessly. The hen and chicks were at once taken into the house, but although every care was taken to remove the stings, &c., six of the chickens succumbed in a very short time; the seventh, being at the time, I presume, under the sheltering wing of its mother, had not been touched.—The hen-mother was a sad sight, her head and neck were literally bristling with stings, and her eyes closed up.—She seemed to suffer much pain, and for two days was unable to eat; on the third day one eye opened, and on the fourth the other. After that, she gradually threw off the effects of the virus, and at the end of the week she was herself again. I had no difficulty, on opening the hive that was next the coop, in discovering the cause of this fierce onslaught. A bar, which barely reached the sides of a super, had fallen into the midst of the astonished bees, and they, fancying their domicile had been attacked, had rushed out with a full and fell purpose of wreaking vengeance on their disturbers. The punishment inflicted was indeed short, sharp, and decisive; but, as is too often the case with higher-reasoned beings, the innocent suffered for the guilty."

ARTIFICIAL.—Newton, seeing a falling apple, asked, *why?* Franklin, upon witnessing the lightning's flash, asked, *why?* Fulton, perceiving the force contained in steam, asked, *why?*—Thousands of scientific discoveries have resulted from some one asking *why?* When we hear persons call Comb Foundation "artificial," we naturally ask, *why?* Artificial is "*un*natural," "fraudulent," an "imitation!" What is there *un*natural about Comb Foundation? Is the wax *un*natural? Does melting, and dipping a board in it, make it a fraud? Does peeling off the cooling sheet of wax from the board make it an "imitation?" Or running it between rollers, pressing configurations into it, make it unnatural? If so, why do the bees take to it so naturally, instantly siezing it, building it out into beautiful cells, in which to raise their brood or store their honey? Is not everything genuine, natural and real? Then *why*, in the name of common sense, should it be called "artificial?" We much prefer the real, the natural, the genuine, be it ever so plain, to the gilded fraud, or the elegant imitation! Don't you? Let all ask, *why?* An honest doubt often leads to greater truth!

☞ That "floating apiary" of Mr. C. O. Perrine's has passed St. Louis and is making its way north. The season was much earlier than usual in the North this year, and Mr. P. did not start till May 13th, six weeks after he intended, so that it has not really had a "fair show," though Mr. P. says he is well satisfied with the result, and intends to prosecute it with increasing vigor, next season. It is pluck that wins, usually.

Shipping Goods by Express.

DEAR EDITOR:—Is it not strange, in this enlightened age, with the facilities for getting information in regard to the rates charged for shipping by freight or express, that there are so many that order goods and direct how to ship them, and then, because they think the charges too high, will not take them? I lately received an order from Kansas for 15 bee-hives, complete. The money was sent with order, with instructions to send by express immediately. I did so by the next express, but I had to guarantee the charges, and on receipt of the hives the charges were so high that the party ordering them refused to take them, and I have had to pay charges and hold the hives, and he loses the money sent for them. The charges were $30.90 ! ! R. R. MURPHY.

It is very often that those who live in the country have no idea of how exorbitant the express charges become for long distances. We lately received two hives by express on which the charges were $3.50—about as much as they were worth. Those ordering goods should order early enough for them to be sent by freight, and that would save all the trouble. Freight charges are usually light—extremely so when compared with express charges. A bee-keeper who was visiting our Museum a few days since, made this wise remark: "I never wait till I want anything before ordering. I always send in advance, and then have it ready for use when desired."

☞ Quite a number of very interesting Honey Shows have been held by the British Bee-Keepers this year. We notice a list of eighteen Honey Shows in one number of the *British Bee Journal*, held at different places in England. Prizes were offered for the best Bees, Hives, Honey, Boxes, &c., ranging from "one guinea" to "half-a-crown!" Here is a lesson we must learn. We must take more interest in Honey Shows, and encourage them.—It will be vastly to our advantage to do so.

BEE-HIVING EXTRAORDINARY.—The Cedar Rapids (Iowa) *Times* notices the fact that a swarm of bees were in the air over one of the streets of that city, and a man provided himself with a bush for the accommodation of the swarm when they came down. And come down they did, but preferred lighting on the man who held the bush rather than on the bush itself. The bees covered his head, shoulders, back and breast as a swarm of bees only could cover a man. He stood like a statue, and when the swarm was well settled, he extended his arms, the bystanders pulled off his coat, shook the bees into the hive, scooped them gently off his head, face and neck, and the entire swarm was captured and cared for. The men and boys were almost as numerous as the swarm of bees, and no doubt they were as much astonished as were the bystanders when Paul handled the viper in days of yore.

BEES AND THE MAILS.—The late "instructions" from the Postmaster General have put a *quietus* on sending queens by mail—nearly ruining the "dollar queen" business. If this were the *only* "inconvenience," we should not regret it—for such stock ought not to be sent over the country either by mail, or in fact by any other means of conveyance. The exact wording of the "instructions" in question will be interesting to some, and so we give it in full:

Your attention is called to the following instructions from the General Superintendent, viz:

Post Office Department, Office 1st Ass't P. M. Gen'l,
Washington, D. C., July 13th. '78.

SIR: Referring to the correspondence submitted by you to this office, under date of the 10th inst., I have to say that bees are held by this department to be unmailable matter, and employees of the railway mail service, as well as postmasters, should refuse to receive them for mailing; but when packages containing bees are found in the mail car, the employee in charge thereof should deposit the same at the terminal office of his run, and the postmaster thereat should notify the party addressed, by letter, that such package is held subject to his order, and that the same will be forwarded at the expense of such party, by such means as he may indicate other than the mails. Very respectfully,

(Signed,) JAMES H. MARR,
Act'g 1st Ass't P. M. Gen'l.

Hon. Theo. N. Vail, Gen'l Supt. R. M. S., Present.

☞ J. S. Harbison, Esq., the great Bee-King of California, and C. J. Fox, Esq., the President of the San Diego Bee-Keepers' Association, will send a joint communication to the National Convention on the subject of "Bee-Keeping in California." It will no doubt be a very interesting paper.

☞ A private letter from California states that the honey crop of this year will be about two-thirds as much as in 1876. In July the white sage yielded abundantly, and the flavor of the new honey is said to be excellent.

California Honey Crop.

Knowing that our readers not only in the West but also in the East, will be interested to get facts, relative to the California honey crop, we give place to the following extract from a letter from Mr. J. S. Harbison, the bee-king of California, who has already sent several car-loads of honey to New York:

"I am now satisfied that the product of this county (San Diego) will be in the vicinity of 15,000 cases of comb, and extracted enough to run the aggregate up to 1,000,000 lbs. If reports from the four counties outside are to be relied on, the yield will fall materially below that of 1876, say one-third.—The above is the nearest approach to quantity this year that can be arrived at until the crop is forwarded for market. I cannot give any estimate of the amount required for this coast. There will be heavy shipments of extracted honey by grain ships to Europe. The volume of the white sage honey has not yet begun to arrive from apiaries.

The extracted honey is nearly all being put up in pine barrels, weighing about 300 lbs. gross weight; 6 cents for good to prime, in bbls. as above, is now the price with merchants here; I look for lower rates soon."

Relative to improvements in packing honey, the San Diego *Union* remarks as follows:

"Letters received here last winter from Thomas G. Newman, editor of the AMERICAN BEE JOURNAL, and from Thurber & Co., of New York, advised our Bee-keepers' Association to pack their honey in "small, neat, attractive cases," in order to compete with those used in the East, and recommend the use of the "Prize Box." The President of the Association was requested to correspond further on the subject, and in doing so, had sent to him by mail a sample "Prize Box." This was found to be unsuited to our requirements, as it needed glass, and the cost and risk of breakage would be too great. Setting his wits to work, the President, Mr. Chas. J. Fox, invented a sliding lid, placed in each side of the box, the use of which enabled the dealer to exhibit the honey without taking off the lids of the boxes, even when they are piled up several tiers high. We saw a sample box to be sent by mail to Chicago, to show the dealers there in what a neat and attractive shape our producers can put up their honey. They have before acknowledged that our honey could not be beaten for quality; and now they will find we are not going to be behind the times in putting it up for sale.

Mr. Fox, who seems to be quite an enthusiast in the business, has corresponded a good deal all over the world, and made several suggestions and improvements of considerable value to our bee-keepers."

☞ Our brethren of the press are constantly placing us under renewed obligations, for the very kind but unsolicited notices they are giving the AMERICAN BEE JOURNAL. Though they are fully appreciated, we could not copy them all. The following, from the *American Grocer*, of New York, is but a sample of the many.—As heretofore, we shall endeavor to further *all* the interests of the honey-producers of America, and make the BEE JOURNAL so interesting and valuable to them, that no one who is interested in Bees or Honey will willingly do without it. If this course shall bring us the approbation of good men, as well as the praises of the Press of this Continent, we shall be amply paid. Here is the notice of the *Grocer:*

"AMERICAN BEE JOURNAL.—We recognize the fact that this journal is preeminently above all its competitors, that it is full of fire, enterprise and vim; that it discusses the various questions pertaining to bee-culture with spirit and energetic thought; that it is an honor to its Editor and to the interest which sustains it. It has no individual axe to grind, but it is the fearless champion of all that is useful and good; steadfast, unwavering, honest; never vacillating or swerving, but true as the needle to the pole to the interest of bee-keepers. It should be taken and supported by every one interested in bees or honey.—As an advertising medium, for reaching an enterprising, thrifty class of farmers, such as bee-keepers always are, it certainly *has no equal.*"

Cook's Manual of the Apiary.

The following is what the Press has said about the above book this month:

"Treating the art in all its different branches in a clear, concise and interesting manner, showing the author's thorough knowledge of the subject on which he writes."—*The Canadian Entomologist.*

"This volume must rank with Henderson's manuals, and share with them the praise of being an indispensable adjunct to every specialist's library, and to every beginner and person interested in bees. It is a scientific book, a practical book, a book of 'how to do' and 'why to do,' tersely written, yet fully expressed; a book for the people; a book to the credit of American literature. The printing is well done, the illustrations are of fine order, the binding is attractive."—*Scientific Farmer*, Boston.

Marketing Honey.

This department will be devoted to items of interest concerning Packing, Selling and Shipping Honey and Beeswax.

☞ Stair & Kendal, of Cleveland, O., reports that the finest, whitest comb honey is selling there at 16c.

☞ Nice, white comb honey, in single-comb sections, is selling in Boston, at 16c. per pound. Extracted at 8c. and 9c. per pound.

☞ We learn that friend G. M. Doolittle has 5830 pounds of extra white honey this season, and friend Betsinger about 3000 pounds of the same kind.

☞ Thurber & Co., of New York, have received one car load each of extracted and comb honey from Cuba, and sold most of the comb honey at 17c. to 18c. The extracted is thin and unripe, causing the cans to puff and burst; this was sold at 8 and 9c. per pound.

☞ In England, extracted honey is worth, at least, 25 cents per pound, and the *British Bee Journal* for July, assures us that "if it is very choice, it will realize more." Therefore, to export our excellent honey to that beautiful "Isle of the Sea" is a happy thought—and one which will pay well to practice.

☞ A progressive Californian writes that he is putting up his honey in crates similar to the "Prize Crate," but having "a sliding lid to cover the opening on each side, thus saving glass, and at the same time protecting the honey, giving equally good facility for inspection without opening the crate." We are glad to see that this crate is adopted as a standard. It will help to bring about the much-needed reform in the boxes heretofore used. The substituting of a slide of wood for glass is a good idea for such a long journey.

☞ Voigt, Mahood & Co., of Pittsburg, have received a car-load of California comb honey, and sold it out at 16c. per pound.

☞ From W. D. Parker & Co., we have a sample of very nice and smooth dovetailed sections. They are made of whitewood, smooth on all sides, and are handsome in appearance. The section to hold one pound of honey weighs less than one ounce.

☞ The United States pays annually to other countries $100,000,000 for sugar and molasses. If the true value of honey were generally understood, much of this enormous sum could be kept at home, greatly augmenting the wealth of the country, as well as giving health and happiness to thousands who now suffer with diseases of the chest and lungs, and adding years to the lives of the weak and suffering everywhere.

☞ A bee-keeper who had his surplus boxes made at home, wrote us to send him a lot of crates for them—stating that they were the "Prize Boxes." In a few days back they came, saying they would not fit his boxes and were useless. On receipt of one of his boxes we were not surprised to find that they would not fit. The prize box is 2 inches deep—his was 2¼ inches; the prize box is 6¼ inches high, his was 5½ inches; the prize box is 5¼ inches wide, his was 6½. The moral is—if you don't know just what the prize box is, send and get one before you get boxes made—for it will be the standard hereafter. It will save time, trouble, annoyance and expense.

☞ This month promises to be a busy one for bees. The buckwheat yield will be large, and golden rods and fall flowers promise a good yield. Get all the box honey possible, for it sells much more readily than extracted. "Keep all colonies strong," is the best of advice; uniting or strengthening with a frame of brood when necessary to do so.

Foreign Notes.

Foreign Items,

GLEANED BY FRANK BENTON.

HONEY VINEGAR.—Stir together a half pound of honey and a quart of water, permitting the whole to boil while mixing it; then expose it to the rays of the sun, covering with light muslin to prevent insects from getting in, and in 6 weeks it will become excellent vinegar, quite as good flavored as that made from wine.

DO QUEENS LAY DRONE OR WORKER EGGS AT WILL?—In reference to this point, Herr Thormann gives, in *Deutscher Bienenfreund*, the following information: "During the past two years I have been making experiments with the view of breeding larger workers; and to this end I have obliged queens to lay worker-eggs in drone cells. At the present time there can be seen in my apiary a colony that was wintered on 7 drone combs, 4 of which now have brood in them; no drone-brood, but worker-brood in drone-cells."

ROTARY BEE-HIVE.—A German agricultural journal has a long description, with 7 illustrations of O. Freiwirth's Rotary Bee-Hive. To a Yankee bee-keeper the affair would look very much like a cheese-box standing on one of its flat sides, having a post through the center, attached to which, at a little distance from the bottom, is a disk; through an opening in the circular side the frames are slipped in until they touch the center-post, the latter, with the disk, being revolvable. The inventor claims that "with closed eyes the apiarist can put the frames in place without crushing a single bee." Germans are certainly very patient, and, one would think, never in a hurry.

INTRODUCING QUEENS.—Herr Benedict Broglio states in the July number of *Der Bienen-Zuechter*, (Strassburg), that since the spring of 1876, he has practiced, with uniform success, the following method in introducing queens:—The bees of the hive to which the queen is to be introduced are brushed from the combs into a box, then dampened with fresh water, and poured down before their hive, the queen being permitted to crawl into the hive with the buzzing bees. Of course before this operation is commenced it is necessary to remove the queen that is with the colony at the time, or in case queen-cells are present, to destroy them when the bees have been shaken from the combs.

COMB FOUNDATION.—*Der Elsaessisch-Lothringische Bienen-Zuechter* published in Strassburg, contains, in the July number, the following editorial notice, and the article on comb-foundation, which is printed in this month's JOURNAL: "Comb foundation finds in our worthy co-laborer, Herrn Dr. Reisser, President of the Leberau section, a zealous defender. Those of our readers who are familiar with the French language have a clear exposition of the subject in Dr. Reisser's first letter, which is published in this number. The author will furnish a series of letters on this important topic. In the present letter he gives the history of comb foundation and a statement of its unmistakable value in the rational management of bees. We may add that Dr. Reisser manufactures his comb foundation himself, and has worked out and tried practically everything which he will communicate in his letters.

"A not less eloquent defender of comb foundation is Herr Huber, teacher in Niederschopfheim, the possessor of one of the largest and finest apiaries in Southern Germany, and founder of the apiarian society of the Grand Duchy of Baden. 'I was formerly a disbeliever in comb foundation,' says Herr Huber, in the last number of the *Eichstaedter Bienenzeitung*, 'but I acknowledge now that I was wrong. It is true that one can follow bee-culture without movable-comb hives, also without comb foundation. I have been able to get along 40 years without them, and since they are very dear, have, perhaps, through not using them, spared many hundred marks. But it was only in the year 1877 that I came to understand the truth in regard to this matter—that avoiding expenditures where they should be made, was not saving. Every apiarist knows how disagreeable and harmful to the bees drone-combs in the brood-nest are; yet, though I had employed always every known means to prevent the construction of drone-comb in the brood-nest, I was contending with this continually.' In the summer of 1877, Her Huber placed 300 frames of comb foundation in his hives, and with the exception of 2, they were all built out with beautiful worker-cells. Every practical bee-culturist knows the value of such a result. Comb foundation costs considerable, it is true; but the saving resulting from its use is much greater than the outlay required. So much in regard to the question of artificial combs."

Translated from *L'Apiculteur Alsacien-Lorrain*, by FRANK BENTON.

Comb Foundation.

To M. H. Apiculturist at Riquewihr.

MY DEAR FRIEND:—In writing to me that you will only decide in reference to the employment of artificial combs, after an acquaintance from A to Z, with all the advantages which they present, and with the faults from which, certainly, they are not exempt, you show yourself to be a prudent man—one who does not wish "to buy a cat in a sack;" but in asking of me all this information, you deceive yourself concerning the importance of my experience and the value of my judgment. I am not infallible; far from that; therefore I would not wish to impose my opinion upon you; nevertheless, as it is your desire, I will endeavor to serve to you (though in somewhat broken sentences), what I have, by hook or crook, learned concerning the subject which engages your attention.

Very early in the use of movable combs, apiarists finding that empty frames, or frames simply furnished with comb-starters, when placed in a hive during the months of

April, May, or June, were filled in greater part with drone-comb, sought for the means of restraining, if not of suppressing wholly, this work so prejudicial to their interests. These efforts remained unavailing for a long time, and hardly 15 years have passed since the first practical result was obtained.

Mehring, a cabinet-maker of the Palatinate, was the Archimedes, and stated the question which, of itself, ought to have been a ray of light for all the seekers: "By making sheets of wax having upon their surfaces impressions resembling the base of the cells, and fixing them in the habitations of the bees, is it not possible that the latter would follow the indication given and would continue to build upon these bases in the manner desired?" The reply was not waited for. Two little boards of hard wood, upon which had been engraved the hexagonal bases of the worker-cells, served as a mould. The sheets, imperfect as they were, were accepted by our industrious insects, and, to the great joy of the inventor, were filled out with cells formed and finished upon the ridges or edges left by the mould.

The problem was then solved; but, as often happens with useful inventions, the fruitful idea once expressed and thrown before the public, all the improvements that would bring about its application, came from without. Dummler, of Hamburg; Kuntz, of Jaegerdorf; Sand, of Gundan; Jacob, of Frauenbrunnen, &c., advanced rapidly in this direction. But no one acquired the skill of Otto Schulz, of Bucknow, who, from 1869, to this date, has shrunk from no sacrifice of time and money in order to reach the highest limit possible. Lightness of the sheet, figuring of mathematical exactitude, perceptible depth of impression (1 millimeter—.0394 of an inch), purity of the wax; nothing is lacking that would cause the article he manufactures to hold the first rank among productions of this kind. But have we arrived at the limit of progress? I do not believe we have. In fact has not M. Junger sent, within a month, to many native and foreign apiculturists, samples of artificial comb, one surface of which had cells wholly finished, promising to send them shortly a trial piece having the same sort of cells on both sides.

But wait a little. Let us consider the value of what we already possess, that is to say, of sheets simply figured. It is now admitted that every pound of comb made by the bees costs their proprietor a minimun of 10 lbs. of honey. Let us put the wax at the highest price, say 2 fr. 75c. (51.15 cts.), and the honey at the lowest, say 1 fr. (18.6 cts.), then the actual loss of the apiculturist is 7 fr. 25c. ($1.3485). This figure is expressive enough to convince us of the absolute necessity, if we wish to be rational in our management of saving the bees, at least partially, this expensive work. However, if we have, at hand combs full of honey, nothing will be easier. The extractor will empty them without injury, and we will put them back into the hive and the bees will fill them again. But these blessed combs do not fall from heaven. In order to construct one of them, the bees consume enough honey to fill the half of another one; then comes the loss of time.—Quite a portion of the colony remain in the hive to perform this work, and even more must be present to keep up the high temperature necessary in wax-making. And the great honey yield is passing outside while the workers are occupied within.

I know very well that more than one author, even some of the great masters, claim "that colonies provided with combs exhibit less activity than those that have to build them, and that thus there is a compensation." This statement seems to me, at least, too absolute. That bees, furnished with organs for the elaboration of wax, may be required by nature to put them in use, everybody will admit; but between the wax-producing organs and the organs for the production of honey, is there a parity of functional power? Who can say that there does not exist a sort of correlation between the two, of such nature that when one operates more the other operates less; and this for the express purpose of preserving the equilibrium of the animal system?—Then how are we to explain the idleness of our insects? Very well, the explanation is deduced quite easily from the remedy that is employed to stimulate the sluggards.

If, notwithstanding the sunshine, and notwithstanding the honey-yield, your stock flies languidly, add to its combs, by placing between them one or two empty combs; that is to say, give it more air, and everything will return to order. Either I am much deceived, or this momentary inactivity only comes from the smallness of the apartment; hence, from the too great heat which exhists there, and which enervates the insects as it would man.

DR. REISSER.

How to get rid of Ants.

During a recent visit to Mr. Humann, in Ostheim, I had an opportunity of becoming acquainted with a very successful method of speedily getting rid of ants which are so troublesome in the apiary.

One takes small bottles, fills them half full of sirup or sweetened water, and puts them in the places where the ants have their passage-ways, in such a manner as the necks of the bottles lean against a wall or board, in order that the ants may easily fall into the trap and drown.

By means of camphor, ants can be driven from rooms where honey is stored.

In gardens, lime-dust operates very destructively upon them. Their hills, after being scratched open, are sprinkled with lime-dust, and then hot water is poured on them.

To render jars of honey or preserved fruit inaccessible to these insects, place the jars in chests whose bottoms have been previously covered with ashes or pulverized chalk.—*Elsaessivche Bienenzuechter.*

☞ Comb foundation is a great success. This morning (Monday) I found the queen had been laying in a hive into which the swarm was only put on Friday night, with the foundation.—*A London Bee-Keeper in British Bee Journal.*

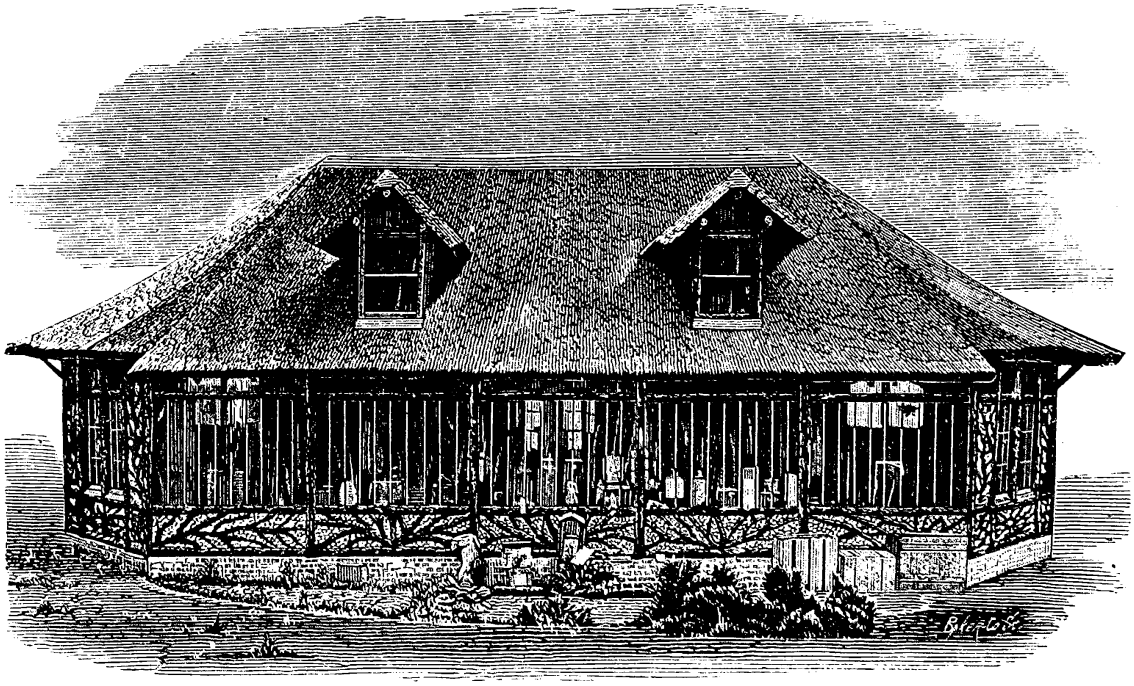
The Paris Exposition.

From our special correspondent at the Paris Exposition we have received the following very interesting communication :

EXPOSITION UNIVERSELLE.

FRIEND NEWMAN:—The "Champ de Mars," a place on the left bank of the river Seine, heretofore used for military exercises, is devoted to the great purposes of the Exposition. The main building, which covers the largest part of it, is a vast parallelogram, in the center of which is an ornamental garden. The allotment of space to each nation consists of a section of greater or less width, extending from the exterior of the building to the central garden, making a depth of about 225 feet. The approach to the building is through grounds elegantly laid out and ornamented with large trees, which have been transplanted. There are artificial lakes and grottoes, also rare exotics from the green-houses of the city. On the opposite side of the river is the trocadero, an elevated plateau of about 75 feet in height, sloping gradually to it, and which is reached by the Jena bridge. Through the grounds, covering the slope from the palace to the river, have been erected buildings in which to exhibit special industries. One of these, the "Chateau de l'Insect," quite an attractive specimen of rustic architecture, with a straw-thatched roof, was erected by the French government, through the persuasion of the various French apicultural societies.

This exhibition is open to all interested in bee-culture throughout the world, for the purpose of encouraging inventions, ventilating the most approved method of managing bees, cementing a kindly feeling between producers and dealers, bringing the products prominently before the public, a free exchange of opinions, and otherwise promoting the general interest of apiarists.



"CHATEAU DE L'INSECT"—PARIS EXPOSITION.

[Messrs. H. K. & F. B. Thurber & Co. very generously supplied us with two large photographs of the "Chateau de l'Insect," from which we have had the above engraving prepared. The originals we shall have framed and placed in our museum.—ED.]

The various hives entered the lists for competition, display a proof of the great interest now taken by Europe in this industry; at the same time they are a sad commentary upon the incorrect ideas of European bee-keepers, when compared with progressive Americans.

However, when we consider that many of their hives came from countries where they still cling stubbornly to the idea that a wooden shoe is better than a leather one, it is gratifying to note a tendency toward improvement.

I cannot help regarding as an unfor-

tunate circumstance the fact that all exhibitors of bees and their products were not accommodated under one roof, as the display would have certainly been much more impressive; and many interested—friend Abbott among others—would not have gone home without seeing all. As it was, every inch of room in the "Chateau de l'Insect" was assigned long before the Exposition opened, and a large number of apiarists had to content themselves with space in their different governmental departments. Their exhibits were none the less interesting for this, but bee-keeping, as an industry, lost much of the force it would otherwise have had in a grand and united display.

I presume the multiplicity of other sights monopolized so much of Mr. Abbott's time and attention that he failed to notice, while here, the elaborate display in the American department made by Messrs. H. K. & F. B. Thurber & Co., for in the July number of the British *Bee Journal*, he says the American exhibits were conspicuous by their absence. The Thurbers' always try to be abreast, and to this firm's enterprise the bee-keepers of the United States owe a fine exhibition of their honey. This firm called particular attention to the superior quality of American honey; straight, well-filled combs, stored in convenient boxes, which are in turn packed into neat crates, well adapted for general sale and transportation. Many people, probably in our country, are unaware of the wide range of this firm's trade, and but comparatively few are really aware how much labor, capital and pluck, is needed to sell even a box of honey or a cake of beeswax. It would appear bat simple matters, and yet under careful manipulation of good business men, really imply vast commerce, wide as the earth itself.

It was very gratifying to me, as an American, to hear the prize boxes and crates, as well as the very fine honey they contained, so universally praised by Europeans. Every box was an indisputable witness that although we are called *young* Americans, in the present of bee-culture we are really the *elders* of all the world!

I cannot refrain from recording my regret that some of our enterprising bee-keepers did not utilize photography, and in this manner illustrate a flourishing American apiary and our methods of raising bees for profit. You know how badly Richard wanted a horse and how anxiously Blucher or daylight was looked for, but you will never know with what earnestness I wished for a patent bee-hive man. Strange and almost incredible as the statement may appear, not one of these indefatigable ones were to be seen, and not one American hive or implement was on exhibition! It was refreshing, however, to find the AMERICAN BEE JOURNAL, and the *Bee-Keepers' Magazine* displayed conspicuously! They were nailed to the counter of Messrs. Thurber's exhibit in such a manner as enabled those interested to read them, and they have been thumbed until they are ragged. Your own very beautiful poster occupied a prominent position—and these were the only specimens of bee-literature I saw at the Exhibition.

All the way from Skaneateles to Paris, via Syracuse, New York City, American Institute Fair, through the critical observation of a hundred bee-keepers, across 3,000 miles of the deep sea, on the counter of the Liverpool Exchange, to the largest establishment in London, Hull, Leith, Glasgow and Belfast, back to London, across the rough channel to finally rest, like a brass kettle in the sunshine at the Paris Exposition, came Doolittle's cherry-crate of Honey!! What a history this little crate has had!!! I can, in my mind's eye, see friend Doolittle, working over his bench at the crate, and the look of satisfaction which pervaded his countenance when he first unveiled it, (I mean the crate), to his New York friends! Why, he looked like the gambler who held four aces in his hand and the fifth up his sleeve! He knew he could sweep the deck! Then, again, I see three gentlemen bathed in perspiration, discussing the merits and demerits of this same little crate of honey; they were so long in deciding that the gas was turned off and they were left alone in the dark in the middle of the night to determine its beauty. I remember what a disturber of the peace it became, and how the little dictator, after all, has obliged the world to acknowledge that these boxes are the "most marketable shape," and win from *you* the title of "prize box!"

In the monotony of a sea voyage, after all the books and papers had been read, and every nook and corner of the steamer had been seen, the purser created quite a sensation by announcing that as all hands were anxious to be entertained, he had on board the ship an exhibit intended for the Paris Exhibition, that he would show them. He said upon his "word of honor," and without the least desire to exaggerate the matter at the expense of truth, that that which he was about to show them had required 20,000 individuals a long

time to construct, the entire work had been supervised by a lady, and from the commencement to the completion not a single word had been spoken, either in directing its construction or executing the orders. Neither had they ever before, nor will they ever again make its like. He proposed, therefore, to clear the saloon, and in consideration of two shillings each to be dropped into the contribution box of the Seamen's Orphanage of Liverpool, (one of which almost all steamers carry), to admit all that might desire to see this wonderful exhibit. It is hardly necessary for me to tell you that the little "cherry crate" was again the admiration of all beholders. The joke was enjoyed, and that crate of honey thus became a silent contributor to a great charity.

There are several other incidents quite as interesting, in her career, but I forbear mentioning them, fearing I have already taxed your valuable space too much.

ENGLAND.

The display made by MESSRS. ABBOTT, in this department, is very creditable; their various contrivances are practical and plainly show these gentlemen to be among the leading bee-masters. I noticed their celebrated standard hive and three others, an extractor, a wax smelter, supers, &c.

GEO. NEIGHBOUR & SONS, whose fame as bee-men is world-wide, made an excellent exhibit, that was in keeping with their characteristic enterprise. All their hives except the "Philadelphia" are straw ones. Although the display is large, exhausting, I think, their entire catalogue, it was in many respects a duplicate of their Centennial exhibit, and contained little, if anything, that would interest American bee-keepers enough to adopt. Their observation hive, in the *Chateau de l'Insect*, is the best for that purpose that I ever saw. They exhibit a Bingham smoker with a slight alteration.

FRANCE.

BARAT, of Aiguillon, has a working colony of bees, in a hive constructed according to his ideas of perfection, also honey and wax.

BEAL CANONERE, of Camnrai, has quite a variety of most delicious mead and hydromel, bottled like wine and handsomely labeled. Such a display as this always monopolizes considerable of my time, because they opened my eyes to new outlets for American honey. I had to employ the services of an interpreter, in order to ascertain the particulars of its manufacture.

M. BEAU, of Mailly-la-ville, had a work on bee-culture, also several straw hives, filled with honey; the same style as those in use before the days of Huber. Remembering that a tree is judged by its fruit, after looking at this man's product, I could only conjecture the caliber of his book.

WIDOW BUFRE, of Villers-sur-Condun, makes a grand exhibition of honey and beeswax, also numerous hives.

E. BEUVE, of Creney, makes that sort of a display which never fails to attract the masses, viz, live bees. These they had working in one of their modern hives, so arranged as to demonstrate practically every good feature in their construction.—They also introduced many little convenient contrivances used by them in their apiaries.

M. DEPROZE, from Reims.—The champaigne made from honey, and bottled by this gentleman, vies, in style and quality, with the best manufactured from the grape.

P. ABADIE FERRAN, of Captiux, shows some very pretty beeswax, cast into various sizes of cakes, and done up conspicuously, so as to attract attention. Their specimens of honey have the appearance of old exhibition pieces. Their hives are straw, with movable frames.

ALBERIC & BOR, of Montigney-en-Morvand, are represented by straw supers, filled with honey, a drone trap, and quite a neatly printed treatise on bee-keeping.

ARGANS & SON, of Angerville, display one barrel of candied honey, about the color of our buckwheat.

J. P. ARVILET, of Selogney, furnishes a description of their method of cultivating bees, and exhibits a collection of apiarian tools, a few frames filled with honey, about the shade of our basswood, besides other samples of comb and extracted honey.

C. A. AUBE, of Carbreuse.—The contribution made by this gentleman interested me very much. It consisted not only of honey and beeswax, but a very superior article of alcohol, made from honey. There were many others who showed this kind of alchohol, but this struck me as the best that I examined.

E. ANMIGNONS, of Berzieux, exhibits apiarian implements, honey and a swarming apparatus, consisting of a pole with a bag on the end of it; also some fumigators.

BALET BROS., of Paris, make a brilliant display of honey-producing plants in full bloom.

BOURDIER & MONTUNCAMP, of Mont Boyer, exhibits specimens preserved in alcohol, of eggs, larvæ, queens, drones and workers, artistically arranged, so as to show every successive stage of a bee's growth.

M. BURGHARD, of Paris, exhibits an all-metal honey extractor.

J. N. CAYATTE, of Billy-lez-Mongiennes, manufactures vinegar, made from honey. He had on exhibition a very superior and wonderfully fine flavored vinegar; an article we might make in America. They also have some very nice honey and wax.

CHARTON TROISSARD, of Dampierre-de-l'anbi.—Here we see another and feasible way of employing honey. They have a great variety of fruits preserved in honey, also mead, hydromel and other kinds of liquors. All these were taking in looks and lucious in taste.

I might encumber considerable more of your space by the enumeration, in detail, of a hundred other minor displays in the

"Chateau de l'Insect," but will pass the models, drawings and confections, to note in a flying manner a few that had to find shelter in other departments.

BRISCOFFSKI, of Moscow, Prussia, created somewhat of a flutter among bee-men with his "Perfection Hive," which is a near approach to an "American."

ITALY.

To Prof. Louis Sartori, of Milano, a great amount of praise and credit is due for the very impressive arrangement of Italy's display, in the general arrangement of which no small amount of architectural skill was required. The photographic art has been employed in a most liberal manner by the Italian government, and a series of 50 splendid views of various apiaries and their surroundings add much to this certainly very excellent display; nor is this all in the picture line. There are 10 large brilliantly-colored plates 9x13, the anatomy, &c., of the honey-bee, while there are others showing the interior of work-shops belonging to various bee-keepers, illustrating their manner of working and arrangement of machinery. Photography is a novel and instructive feature of this section.

The individual contribution of M. SARTORI, consists of about one dozen differently designed hives, all movable frames and some of them made of wood; a bellows smoker, with long projecting handles; sample phials of honey from every province of Italy. Very fine vinegar; a feeder with a float in it; various styles of wooden urns and glass jars for packing honey in; a very elaborate design of his establishment in Italy; queen cages, boxes for transporting queens in; veils, and miscellaneous shaped knives, and a very large assortment of candied honey; frames holding one pound of comb honey and a variety of ginger-bread, into the composition of which honey enters very largely. Also a tin extractor, rigged upon a wooden frame, and a specimen copy of his celebrated work "L'Apicoltura in Italia."

M. GIOVANNI, of Antignati, had on show several hives.

Count GARTANO, of Milano, had an extensive display of hives and honey.

B. BOTTAMINI, of Bormio, wins the eye with a very ingeniously-constructed model of his apiary; photographs of beautiful Bormio and its surroundings; 2 bee hives, a large collection of honey and beeswax, and a variety of very finely-flavored liquors made from honey.

GUISEPPI'S APIARY is represented by handsome views, as many as 8 varieties of delightful liquors, 5x6 frames for honey, extractors and presses for pressing out or straining honey, and an additional attraction in a section of cork tree 5 feet long, 12 inches in diameter, hollow, and filled with honey by the bees.

Italy, not content with the magnificent display in her agricultural department, continues to interest bee-keepers by her show in the department of manufactured goods of crude beeswax and the brilliant candles and tapers made therefrom.

JAPAN.

The Japanese government make an impressive exhibit of beeswax and strained honey.

BOLIVIA

contributed only a box of nice beeswax.

HUNGARY.

Wm. Rosenthal of Budapest, Hungary, has an attraction in honey and wax.

NETHERLANDS,

have on exhibition two pyramids of white and yellow wax, and several jars of honey and bottles of hydromel.

PORTUGAL,

has ten samples of honey and beeswax.

VENEZUELA

display a straw super filled with honey; also an assortment of white and yellow wax. Surplus boxes, filled with comb, and weighing 3 pounds each, a limb of a tree with honey comb built on to it, and a straw-thatched wooden-framed hive, as well as a variety of extracted honey in nice jars.

In the horticultural annex, Louis Corset, beekeeper at Cher, France; G. Dumas. Saint Remy, France: M. Polizard, whose establishment is at St. Denis de Palm; M. Malesset Buzancais, Rameau, of Toulon—all have very nice and creditable shows of honey, wax and hives.

The Messrs. FIELD, the great candle manufacturers, and the largest consumers of beeswax in the world (who by the way have lately made H. K. & F. B. Thurber & Co., their sole agents in America), come to the front, as usual, with their magnificent array of candles. Surely the little bee herself might verily become inflated with self-importance could she be aware of the vast traffic her products create. The religious pageantry of Roman Catholic countries of Europe and America owe much of its splendor, and more than half perhaps of its influence on the mind, to the altar-candles. each the tribute of a thousand flowers, collected by a thousand bees, of all substances for the illumination of holy altars, is certainly the most appropriate—so pure, so sweet in its origin, leading back the thoughts to beautiful blossoms and gardens. This firm consume ten tons of American beeswax per month, besides large quantities from other countries.

I purposely avoided giving a detailed description of the various hives &c., for so doing I would simply occupy your space without furnishing your readers with any new or useful ideas. ARGUS.

HOW TO WINTER.—Those who wish to post up on the subject of wintering, will do well to read Prof. Cook's essay as read before the National Convention of 1876.—Price 15 cents.

Honey Used for Cooking Purposes.

Council Grove, Kansas, July 8, 1878.
"Will you please give Receipts for Honey Cake in the JOURNAL?" M. F. CLUTE.

Certainly. Instead of dealing disease and death promiscuously to those who indulge in its use, as do syrups, honey gives mankind, in the most agreeable manner, both food and medicine.

It is a common expression that honey is a luxury, having nothing to do with the life-giving principle. This is an error—honey is food in one of its most concentrated forms. True, it does not add so much to the growth of muscle as does beefsteak, but it does impart other properties, no less necessary to *health* and vigorous physical and intellectual action! It gives warmth to the system, arouses nervous energy, and gives vigor to *all* the vital functions. To the laborer, it gives strength—to the business man, mental force. Its effects are not like ordinary stimulants, such as spirits, &c., but it produces a healthy action, the results of which are pleasing and permanent—a sweet disposition and a bright intellect.

The use of honey instead of sugar for almost every kind of cooking, is as pleasant for the palate as it is healthy for the stomach. In preparing blackberry, raspberry or strawberry short cake, it is infinitely superior.

Well-purified honey has the quality of preserving, for a long time in a fresh state, anything that may be laid in it or mixed with it, and to prevent its corrupting in a far superior manner to sugar; thus many species of fruit may be preserved by being laid in honey, and by this means will obtain a pleasant taste and give to the stomach a healthy tone. One who has once tried it, will not use sugar for preserving fruit; besides, honey sweetens far more than sugar.

In fact, honey may replace sugar as an ingredient in the cooking of almost any article of food—and at the same time greatly add to its relish.

Digestion (all-potent in its effects on the mind as well as the body) depends largely on the food. Poor food received into a poor stomach is the cause of many unhappy homes—while good, healthy food, received into a healthy stomach becomes "an Angel of Peace" to many a household.

The following are a few of the many desirable things that may be made, with honey as an ingredient:

HONEY LEMON CAKE.—One cup butter, 2 cups honey, 4 eggs well beaten, teaspoonful essence of lemon, half cup sour milk, teaspoonful soda, flour enough to make it as stiff as can be stirred, bake at once in a quick oven.

HAMBURG HONEY CAKE.—The flour intended for this cake should be well dried and sifted, before being weighed; then take 12 pounds of flour and 12 pounds of honey; bring the honey to a boiling heat, pour it in the flour, and mix thoroughly.—Dissolve 2½ ounces of pearlash in 2 gills of rose-water, the evening before; take 1 pound of butter or lard, 2 table-spoonsful of of West India rum, the grated rind of 2 lemons, the candied or sugar-coated rind of 2 oranges, and a very small quantity of pounded cloves. The solution of pearlash is to be added when the dough has become cool, and the mass must be thoroughly kneaded. The dough may be prepared several days in advance of the baking.

HONEY BROWN CAKE.—To 4 pounds of flour take 4 pounds of honey, ½ pound of pulverized loaf or lump sugar, ½ ounce of Canella, 3 ounces of lard, a small quantity of cloves, 1 ounce of pearlash, 1 gill of rose-water, and 2 spoonsful of rum or French brandy. The honey and lard are to be incorporated by boiling, and when again cooled off, add the pearlash previously dissolved in the rose-water. Knead the mass well, let it stand several days, and then work it over again very thoroughly. Some persons prefer to omit the cloves, and substitute for them pounded cardamon seeds, grated lemon peel, or sugar-coated orange peel.

HONEY APPLE CAKES.—Soak 3 cups of dried apples over night; chop slightly, and simmer in 2 coffee cups of honey for 2 hours, then add 1½ coffee cups of honey, ½ coffee cup of sugar, 1 coffee cup of melted butter, 3 eggs, 2 teaspoonsful saleratus; cloves, cinnamon, powdered lemon or orange peel, and ginger syrup, if you have it. Mix all together, add the apples, and then flour enough for a stiff batter. Bake in a slow oven. This will make 2 good sized cakes.

HONEY FRUIT CAKE.—Four eggs, 5 cups of flour, 2 cups of honey, 1 teacupful of butter, 1 cup of sweet milk, 2 teaspoonful cream of tartar, 1 teaspoonful soda, 1 pound of raisins, 1 pound currants, ½ pound citron, 1 teaspoonful each cloves, cinnamon and nutmeg; bake in a large loaf in a slow oven. This will be nice months after baking as well as when fresh.

HONEY SPONGE CAKE:—One large coffee cup full of honey, 1 cup of flour, 5 eggs.—Beat yelks and honey together, beat the whites to a froth; mix all together, stirring as little as possible; flavor with lemon juice or extract.

RAILROAD HONEY CAKE.—One cup of honey, 1 heaping cup of flour, 1 teaspoonful cream tartar, ½ teaspoonful soda, 3 eggs and a little lemon juice; stir all together 10 minutes. Bake 20 minutes in a quick oven.

Honey can be used in cooking anything, just as sugar is used, merely using less milk or water than called for when sugar is used, on account of honey being a liquid.

MILK AND HONEY.—Take a bowl of milk and break some light wheat bread and also some white comb honey into it. This is delicious—the proverbial "milk and honey" of the ancients.

HONEY CAKE.—One quart of extracted honey, ½ pint sugar, ½ pint melted butter, 1 teaspoonful soda, dissolved in ½ teacup of warm water, ½ of a nutmeg and 1 teaspoonful of ginger. Mix these ingredients and then work in flour and roll. Cut in thin cakes and bake on buttered tins in a quick oven.

GERMAN HONEY CAKE.—Three and one-half pounds of flour, 1½ pounds of honey, ½ pound of sugar, ½ pound of butter, ½ of grated nutmeg, one-sixth of an ounce of ginger, ¼ of an ounce of soda; roll thin, cut in small cakes and bake in a hot oven.

CHEAP HONEY TEA CAKE.—One teacup of extracted honey, ½ teacup of thick sour cream, 2 eggs, ½ teacup of butter, 2 cups flour, scant ½ teaspoon of soda, 1 teaspoon of cream of tartar; flavor to taste.

HONEY GINGER CAKE.—Three cups of flour, 1½ cups butter; rub well together, then add 1 cup brown sugar, 2 large tablespoonful of ginger, and, if you like, the same amount of caraway seeds; 5 eggs, 2 cups of extracted honey and 3 teaspoonsful of baking powder.—Beat it well, and bake in a square, iron pan 1 hour or more.

HONEY CAKES. — Four cups of extracted honey, 1 cup butter, 2 teaspoonsful of baking powder, and flour added by degrees, to make a stiff paste; work well together, roll out ½ an inch thick, cut into cakes and bake in a quick oven. See that they do not burn.

HONEY TEA CAKES.—Three pounds and a half of flour; 1½ pounds honey; ½ pound of sugar; ½ a pound of butter; ½ a nutmeg grated; 1 tablespoonful of saleratus, or carbonate of soda. Mix the sugar with the flour and grated ginger, and work the whole into a smooth dough with the butter beaten to cream, the honey and saleratus, or soda, dissolved in a little hot water. Roll it a quarter of an inch thick, cut it into small cakes, and bake them 25 minutes in a moderate oven.

HONEY COOKIES.—Mix a quart of extracted honey with ½ a pound of powdered white sugar, ½ a pound of fresh butter and the juice of 2 oranges or lemons. Warm these ingredients slightly, just enough to soften the butter, and then stir the mixture very hard, adding a grated nutmeg. Mix in gradually 2 pounds or less of sifted flour, make it into a dough just stiff enough to roll out easy, and beat it well all over with a rolling pin; then roll it out into a large sheet half an inch thick, cut it into round cakes with the top of a tumbler dipped frequently in flour, lay them in shallow tin pans slightly buttered, and bake them.

HONEY CAKES.—Three cups of honey, 4 cups sour milk, ½ cup butter, soda to sweeten the milk; mix rather stiff.

HONEY GINGER SNAPS.—One pint honey, ¾ pound of butter, 2 teaspoonfuls of ginger, boil together a few minutes, and when nearly cold put in flour until it is stiff, roll out thinly and bake quickly.

HONEY PUDDING.—Three pints thinly sliced apples, 1 pint honey, 1 pint flour, 1 pint corn-meal, small piece butter, 1 teaspoonful soda, the juice of 2 lemons and their grated rinds; stir the dry soda into the honey, then add the apples, melted butter and a little salt; now add the lemon rind and juice and at once stir in the flour. Bake one hour. Serve hot or cold with sauce.

GRAPES PRESERVED WITH HONEY.—Take 7 pounds of sound grapes on the stem, the branches as perfect as possible, pack them snugly without breaking, in a stone jar. Make a syrup of 4 pounds of honey, 1 pint good vinegar, with cloves and cinnamon to suit, (about 3 ounces of each), boil well together for 20 minutes, skim well, then turn boiling hot over the grapes and seal immediately. They will keep for years, if you wish, and are exceedingly nice. Apples, peaches and plums may be done in this way.

PRESERVING FRUITS.—Put honey and fruit in a vessel, then put the vessel in a kettle of water and boil, the same as with sugar.

HONEY LIQUORICE.—Honey and a strong infusion of liquorice boiled to a proper consistency.

HONEY-FOAM (*sputum*).—Prepared by beating, with the addition of a small quantity of white of eggs. It is used to brush over cakes and confectionery before baking.

HONEY PRESERVES.—All kinds of fruit made into jam, with honey instead of sugar, are nice. "Butter," made with extracted honey, is much nicer than when made with sugar. For grapes, pick from the stem and pack into a jar until it is full, then turn cold honey over them until they are covered well. Seal up without any heat, and keep in a cool place. After a few months they will be found to be delicious.

Extracted vs. Strained Honey.

For some time we have been calling attention to the misnomer "Strained Honey" when applied to the pure "Virgin Honey" obtained by the use of the "Extractor." Friend Wm. Muth Rasmussen, of California, in a recent letter to the *Evening Express*, on this subject, says:

"Before the introduction of the honey-extractor, all *liquid* honey was *strained*, the process of which, in this part of the country, was commonly as follows: The surplus honey stored in the top of the bee-hive, was cut out and dumped into a reservoir (now generally known as a sun strainer) provided with a glass cover, when the heat of the sun would melt the honey comb, and the liquid honey ran through a pipe into a tank of the main reservoir, while the beeswax would collect into a cake in the bottom of the sun-strainer, to be cut out and re-melted for the market. In this way the honey was unavoidably mixed with bee bread (the pollen of the flowers), an article of not very pleasant taste to man, even if it is to the bee, besides dead bees and brood.

The honey naturally assumed some of the flavor of those ingredients, while it lost some of its own flavor and changed to a darker shade of color by being exposed to the heat.

In the beginning of 1871 my attention was drawn to the honey extractor, a machine advertised in the Eastern papers, and just then coming into use. I obtained one, and was probably the first one in Southern California to take the honey in this way.—Since then, all the principal bee-keepers here have adopted the honey extractor.—The honey comb, being built in frames like those in the main hive, after having been removed from the upper part of the hive, is carried to the honey house, where it is uncapped, or the covering removed with a knife from the mouth of the cells. The comb is then placed in the extractor, a very simple machine, which, by centrifugal force, throws the honey out of the cells.—The honey is then removed to the tank, which generally is supplied with a strainer to exclude bees and flies, and after standing a short time, the scum and such diminutive particles of the comb as are broken off in extracting, rise to the surface to be skimmed off, while the pure, clean honey is drawn off from the bottom of the tank. This honey is virtually pure virgin honey, so much prized in ancient times, being removed from the comb in a cold state, but by a quicker method than of old, and being unpoluted by the bee bread, dead bees and brood.

It is this difference between *strained* and *extracted* honey, to which I desire to draw the attention of the public, and I now mark all my extracted honey as such. The honey comb, after being emptied in the extractor, is returned to the hive, to be refilled by the bees. The sun strainer is now only used for converting the cappings of the honey comb into beeswax, and what little honey adhering to the cappings, is obtained in this way, should either be retained at the apiary, to be fed to weak colonies in the spring, or if sold at all, should be so with the clear understanding that it is really *strained* honey, and an inferior article after all.

I would earnestly advise bee-keepers not to extract their honey until it is fully or nearly all capped over, as it is only proper at this stage. It is much easier to throw the honey out of the comb before it is capped over than after, not only because it saves the laborious work of uncapping, but also because the honey is thin and watery, and not until it has been evaporated by the bees to the proper consistency, the sign of which is that it is capped over, it is good, ripe honey, pleasant and safe to eat under all circumstances. It is a fact well known among bee-keepers in the Eastern States that uncapped honey will produce disease among the bees that are confined to such food during the long winter, just as unripe fruit or half-baked bread would among human beings; and also, that honey which is extracted before being ripe is very apt to sour, thus bringing its own penalty for throwing on the market an inferior article, easily obtained, instead of a good article, for which the producer can vouch and which will give satisfaction to the consumer.

There is a prevailing idea that candied or granulated honey is inferior to liquid honey. This is a serious mistake, the facts of which ought to be more generally known. Nearly all pure honey will granulate in course of time,—that from certain flowers having a tendency to granulate quicker than that from others. Exposure to a cold temperature is another cause of this change. It is one test that the honey is pure. Manufactured or adulterated honey cannot be brought to granulate. In France, honey cannot be sold except in this state, as the public are coversant with the fact, and know that as such they are buying pure honey and not an adulterated article.—If honey granulates, it is very simple to return to its liquid state. Place the vessel containing the honey in a kettle or boiler of water; bring this to a boiling point, and before long the honey will become liquid as when first taken from the hive, without losing any of its original flavor or taste.—The honey vessel should have a small opening, sufficient to let the air out, to prevent the expansion of the air and honey from bursting it. By liquifying a little at a time, the different members of a family may take their honey in which ever way they please, many persons preferring the candied to the liquid honey."

Southern Notes.

For the American Bee Journal.

Improvement of Bees.

The question, with propriety, may be asked: "Is the honey-bee susceptible of improvement?" We answer, most emphatically, it is. The improvement of the honey bee has been greatly neglected. Importations have been made year after year, and still we see no marked difference in quality from the first importations made years ago; in fact the Italian bees imported of late years, as a general thing, are not of as large and fine color as those imported by Parsons and others at an earlier date. Why is this? Have they retrograded? or, have our later importations been obtained from different portions of the country, thus making the difference in size, color and quality? This difference has not been brought about by breeding in this country, although no special care has been given them to obtain their highest perfection. Not one breeder in five hundred or one thousand has ever made a specialty of breeding for improvement in any other way than to introduce, now and then, fresh blood from imported stock. When this is done they seem to think no further improvement is necessary. Here is where they fail to accomplish the highest standard of purity and excellence combined. The breeders of our imported stock of cattle, sheep, hogs, &c., make great improvements upon their stock by selecting every time from the very best until they have arrived at the perfection of all the characteristics of a fine, noble animal. They, in their wisdom of improvement, have in many instances by

far excelled those imported from the old country. So much so, that many a noble animal has been shipped to Europe, having excelled in many points the European breeds.

This shows wisdom and progress in the American breeder. It is a fact, we believe, that the Italians have never made the breeding of the Italian bee a specialty; or, at least given it that attention so necessary to make and bring out those points of excellence that are found in the Italian honey bee. The queens are gathered up promiscuously from different portions of that country and shipped to this, without, perhaps, that distinction regarding quality that should be made or given to them. We have seen some imported queens that, in point of quality were worthless. From their manner of breeding, or otherwise, they had about run out. In many cases these queens are distributed over our country and have not proved to be what they should.

While we find some very fine from the imported stock, we hope to see a change in this department. Let us try and see what improvement we can make in breeding our bees. By carefully selecting from our very best, we can combine all the points of excellence that can be asked for in our bees. But, says one, how am I to accomplish this? First, by selecting from the best those possessing great vigor, large and well marked, you can combine, if you wish; 1st, size; 2d, vigor; 3d, prolificness; 4th, color; 5th, temper. All these points can soon be achieved by careful breeding. We first test the quality of queens and drones in mating them; and when we have tested fairly the qualities of either queens or drones, and found them to duplicate themselves pretty well, we choose them to breed from to cross with others. One of the best and easiest plans is to commence very early in the spring to feed such stock as are to be used for breeding purposes. By feeding a little regularly for a short time, you will produce young drones one month in advance of those not fed. At the same time raise up what queens you wish, and you will secure pure fertilization from such as you desire. Again, in the fall, we wish to test the breeding qualities of some of the young queens we raised in the spring. As soon as the drones are destroyed, which is, here in the South, about the first of August, we place upon our hive a slide to prevent any drones entering, we place good drone comb in the center of our hive and commence feeding regularly every day. We will soon have plenty of drones from such stock as we desire, while all others are destroyed. We raise up what queens we want, and from the drones we have reared we get another cross; and if we find improvement has been made, we keep on breeding from this strain for several generations, and then cross to another. By exercising care and judgment, we will soon see if we are making any progress, which we seldom fail to see in the first or second generation.

EGGS IO QUEEN CELLS.

I had a colony of Italian bees that would start large numbers of queen cells, to all appearance preparatory to swarming. I have found as high as 15 cells, with from 6 to 14 eggs in a cell. I destroyed all the cells, and in 3 days found the same thing existing again. I took from them their queen, and destroyed all their cells, and gave them a frame of nice new comb with plenty of eggs and brood in all stages. In 3 days I found the same thing repeated. I destroyed all the cells, and gave them a young fertile queen, but they still persisted in making cells and feeding them as though they contained but one egg. I then exchanged its place with another heavy colony, which stopped the singular phenomena. A. F. MOON.

Rome, Ga.

For the American Bee Journal.

Matters and Things in Alabama.

FRIEND NEWMAN :—I fear you will have to give us a whole number for "blasted hopes;" as brother Heddon says, I fear this is to be "the summer of our discontent." Already the wail comes up, from Maine to Louisiana, that bees are making no surplus. I landed here, from Oxford, Ohio, the 30th of last January, with 4 colonies of Italian bees; 3 of them in good order. One being a late swarm and the frames not quite filled with comb, broke dawn, destroying half of the bees; but the queen was all right. I fixed them up after their ride of 500 or 600 miles, and on the first of February they began to bring in pollen.

I also bought 30 colonies of black bees, in all kinds of gums, for a $1.50 each, and transferred them to movable-frame hives. The season opened very early. In March, we had plum, peach and cherry blossoms in abundance, which they stored in the brood chamber, sufficient to carry on brood-rearing and comb-building; but I noticed the honey from this source was quite thin, and somewhat bitter, but seemed to answer their purpose. About this time, I had visions of tons of nice, white comb, and barrels of extracted honey; but alas, "there is many a slip between the cup and the lip," and "when it rains soup, my bowl is generally upside down." This time I had the bowl set right, but the shower didn't come. White clover promised well for awhile; the bees filled the brood-chamber and commenced building comb in the upper frames, but a severe drouth set in and dried up the clover with almost everything from which they could get anything sweet.—Then there was no honey-dew,—something very unusual for this country. Neighbors tell me that last year the honey-dew was so plenty that it dripped from the leaves of the poplar and other trees of the forest, but this is destined to be the poorest for many years.

The bees commenced drawing on their stores, and at this date have nearly exhausted them. When I open a hive in the heat of the day, robbers pitch in and would soon clean out the strongest, but I close up the entrance promptly against friend or foe; let them remain closed one hour, then give them room for one bee at a time to pass out or in.

A very good plan is to throw a sheet over the hive and tuck close around it, so that

none can get out or in. When the robbers stop buzzing around it, remove the cloth and contract the entrance, and they will generally defend themselves.

In transferring, I had a lot of black comb which I made into wax. I noticed in moulding it that it was sure to crack. On looking about for the cause, I discovered that the edges cooled first, sticking fast to the vessel when cooling; I took a thin-bladed knife and kept one cake loose around the vessel while cooling. The consequence was a nice cake of wax, without a crack.

The best remedy I have ever found for the sting of a bee is lobelia. I chew the leaves and stock, and apply it wet with spittle. I think the tincture of lobelia would be still better.

I think D. D. Palmer gave Novice a good one in reference to "Our Homes." He is apt to jump at conclusions. Probably he has a dozen letters, out of 3,000 subscribers, in favor of "Our Homes;" but should he call us all up and take a vote, he would see how it stands. I think everything not pertaining to bee-culture out of place in a bee publication. Long may the AMERICAN BEE JOURNAL live. JOHN R. LEE.

Huntsville, Ala., Aug. 2, 1878.

Correspondence.

For the American Bee Journal.

The Aphides, or Plant Lice.

I submit the following extract from Dr. Hartwig's "Wonders of the Polar and Tropical World," who is also author of "The Sea and its Living Wonders," and other works. JOHN MURRAY.

Woodman, Wis., Aug. 5, 1878.

"The aphides, or plant lice, eject a sweet, honey-like fluid, which may be correctly termed their milk, and which is so grateful to the ants that they attend on the honey flies for the sole purpose of gathering it and literally milk them as we do our cows, forcing them to yield the fluid by alternately patting them with their antennæ. But the most extraordinary part of these proceedings is that the ants not only consider the aphides as their property, but actually appropriate to themselves a certain number which they inclose in a tube of earth or other materials near their nest, so that they may be always at hand to supply the nourishment which they may desire. The yellow ant, the most remarkable cow-keeper among our indigenous species, pays great attention to its herds, plentifully supplying them with their proper food, and tending their young with the same tenderness which it exhibits towards its own. With the same provident care a large black ant of India constructs its nest at the root of the plant upon which its favorite species of aphis resides. The ants of tropical America, where no aphides are found, derive their honey from another family of insects—the numerous and grotesquely-formed membracidæ, which are most abundant in the regions of Brazil. According to Mr. Swainson many of these little membracidæ live in families of 20 or 30, all clustered together on the panicles of grasses and on the tops of other plants like the European plant lice. These are regularly visited by parties of a little black ant which may be seen going and coming to their heads and attending them with the same care which the European ants bestow on the aphides. To render the similarity with cattle more complete, the membracidæ possesses horns growing out of their heads, or are otherwise armed, while their large, abrupt heads remind the entomologist of the bull or cow. The Mexican honey ants (*Myrmecocystus Mexicanus*), are, if possible, still more remarkable, for here we see an animal rearing others of the same species for the purpose of food. Some of these ants are mainly distinguished by an enormous swelling of the abdomen, which is converted into a mass like honey, and being unable in their unwieldy condition to seek food themselves, are fed by the laborers until they are doomed to die for the benefit of the community. Whetber this vast extension is the result of an intestinal rupture caused by an excessive indulgence of the appetite, or whether they are purposely selected, confined and overfed, or wounded for the purpose, has not yet been determined."

For the American Bee Journal.

Basewood—the "off year."

EDITOR OF JOURNAL:—In the JOURNAL for August you say that "basswood is a failure in some localities this year." For 25 years our basswood has blossomed only every other year. This, I think, you will find the case all over the East, North and West. I have often wondered that old bee-keepers from basswood localities never mentioned this fact. Some very young trees will blossom a little the off year, and in large forests you will see one tree out of 100 in bloom that year, and the next year all are full. Next year (1879), is the basswood year, and if the season is without extremes, it is one of the most wonderful in yielding blossoms for honey we have in the North. Basswood comes in bloom about the 12th of July here in Wisconsin.

Our clover blossom was the finest this year I ever saw, and all bee-keepers that had their bees in good condition, and gave them plenty of room, received a fine yield for a little over two weeks. Since then, for 15 days, it has been one continual Sunday with them. I never saw them cut down so, and become so perfectly idle, at this time of year.

I have been a bee-keeper for 25 years, and have never been able to overcome, to my satisfaction, three different parts of the business—changeableness of the summer seasons, wintering, and fully to prevent increase and swarming in the honey harvest. The two first named difficulties, I think no bee-keeper will contend that he can master. The swarming trouble I have given close attention for the past two seasons, and am quite sure I have made a discovery in that

branch of bee-keeping that will be of value to box honey bee-keepers.

I commenced the honey harvest this summer with 61 strong colonies. From them came 27 new swarms; at the close of the swarming season I had only increased 7, giving me in all 68. I wish to test my plan fully another season, to be sure I am on the right track, then I will give my plan freely to all that wish it. R. DART.

Ripon, Wis., Aug. 2, 1878.

For the American Bee Journal.

Lecanium tulipiferæ.

Culleoka, Tenn., July 9, 1878.

I send you a specimen of those honey-dew producers, given on page 15', May number, and request that you give their name in the JOURNAL.

S. D. MCLEAN.

On page 218 of the "Revised Manual," in speaking of other sources than flowers from which bees collect sweets, I remark that I have seen the bees thick about a large bark-louse, which attacks and often destroys one of our best honey-trees. This is an undescribed species of the genus Lecanium.

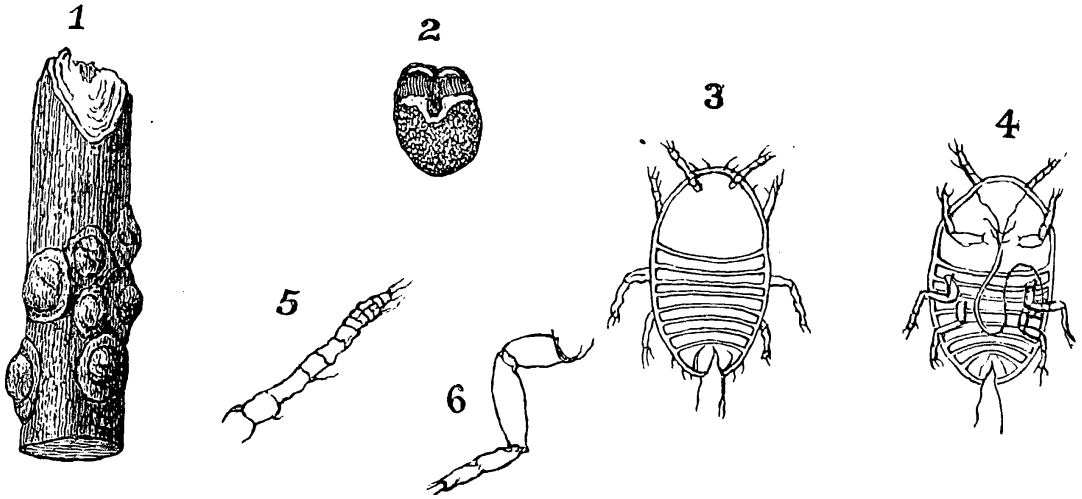
In the summer of 1870, this louse, which, so far as I know, has never yet been described, and for which I propose the above very appropriate name, tulipiferæ—the lecanium of the tulip tree—was very common on the tulip trees about the College lawns. So destructive were they that some of the trees were killed outright, others were much injured, and had not the lice for some unknown reason ceased to thrive, we should soon have missed from our grounds one of our most attractive trees.

Since the date above given, I have received these insects, through the several editors of our excellent bee papers, from many of the States, especially those bordering the Ohio River. In Tennessee they seem very common, as they are often noticed in abundance on the fine stately tulip trees of that goodly State. In the South this tulip tree is called the poplar, which is very incorrect, as it is in no way related to the latter. The poplar belongs to the willow family; the tulip to the magnolia, which families are wide apart.

Wherever the tulip-tree lice have been observed, sucking the sap and vitality from the trees—there the bees have also been seen, lapping up a sweet juicy exudation, which is secreted by the lice. In 1870 I observed that our tulip trees were alive with bees and wasps, even as late as August, though the trees are in blossom only in June. Examination showed that the exuding sweets from these lice were what attracted the bees. This was observed with some anxiety, as the secretion gives off a very nauseating odor.

The oozing secretions from this and other lice, not only of the bark-louse family (Coccidæ), but of the plant-louse family (Aphidæ), are often referred to as honey-dew. Would it not be better to speak of these as insect secretions, and reserve the name honey-dew for sweet secretions from plants, other than those which come from the flowers?

The fact that this insect is yet undescribed; that it attacks one of our best honey trees, and is the source of a so-called honey-dew, leads me to append the following description, with illustrations; especially as this is desired by the enterprising editor of the old BEE JOURNAL, who spares neither labor nor expense in serving up the intellectual viands which he spreads monthly before American apiarists.



NATURAL HISTORY OF THE LECANIUM TULIPIFERÆ.

The fully developed insect, like all bark lice, is in the form of a scale (Fig. 1), closely applied to the limb or twig on which it works. This insect, like most of its genus, is brown, very convex above, (Fig. 1), and concave beneath, (Fig. 2). On the under side is a cotton-like secretion, common to all of the genus Lecanium, which serves to enfold the eggs. Underneath the species in question are two transverse parallel lines of this white down, (Fig. 2). One of them, probably the anterior, is nearly marginal, and is interrupted in the middle; while the other is nearly central, and in place of the interruption at the middle, it has a V-shaped projection back or away from the other line. The form of the scale is quadrangular, and not unlike that of a turtle, (Fig. 1). When fully developed it is

a little more than 3-16 of an inch long, and a little more than ⅔ as wide.

Here at Lansing, the small, yellow, oval eggs appear late in August. In Tennessee they would be found under the scales in their cotton wrappings many days earlier. The eggs are 1-40 of an inch long, and 1-65 of an inch wide. These eggs, which are very numerous, hatch in the locality of their development, and the young or larval lice, quite in contrast with their dried, inert, motionless parents, are spry and active. They are oval, (Figs. 5 and 6), yellow, and 1-23 of an inch long, and 1-40 of an inch wide. The eyes, antennæ (Fig. 5), and legs, (Fig 6), are plainly visible when magnified 30 or 40 diameters. The 9-jointed abdomen is deeply emarginate, or cut into posteriorly, (Fig. 3), and on each side of this slit is a projecting stylet or hair, (Figs. 3 and 4), while from between the eyes, on the under side of the head, extends the long recurved beak, (Fig. 4). The larvæ soon leave the scales, crawl about the tree, and finally fasten by inserting their long slender beaks, when they so pump up the sap that they grow with surprising rapidity. In a few weeks their legs and antennæ disappear and the scale-like form is assumed. In the following summer the scale is full-formed and the eggs are developed. Soon the scale, which is but the carcass of the once active louse, drops from the tree, and the work of destruction is left to the young lice, a responsibility which they seem quite ready to assume.

In my observations I have detected no males. Judging from others of the bark-lice, these must possess wings, and will never assume the scale form.

REMEDIES.

If valued shade or honey trees are attacked by these insatiate destroyers, they could probably be saved by discrete pruning—cutting off the infected branches before serious injury was done, or by syringing the trees with a solution of whale oil, soap—or even common soft soap would do—just as the young lice are leaving the scales. It would be still better to have the solution hot. Whitman's Fountain Pump is admirable for making such applications.

Fig. 1 is slightly magnified; the others are largely magnified. The drawings were made from the objects by W. S. Holdsworth, a senior of the Michigan Agricultural College.

A. J. COOK.

For the American Bee Journal.

An old, old Hive.

Being told there was a hive, near here, 35 years old, I determined to see it. Accordingly a drive of 6 miles took me to the residence of Rev. W. Winn, an old settler of this county. I found him at home, and very willing to show his old hive. He said he bought it with bees in, 30 years ago, and it was 5 years old then. Says the bees have never swarmed but one season from it, and that was 5 or 6 years ago. During that summer, 4 swarms were cast off. The hive was made of black walnut, by a master mechanic, and thoroughly painted. Since Mr. Winn has had it, it has stood entirely unprotected, winter and summer, except being partially shaded by an apple tree for the last few years.

The hive consists of 5 boxes, 24 inches long by 15 wide. The lower one is plain, and 8 inches deep; the other 4 are 6 inches deep, plain on one side and panneled on the other, with 2 glasses, 2½ by 10 inches in each box, darkened by sliding boards. Each box had a few slats nailed across the upper edge. The lumber is ¾ of an inch thick.—The top is one flat board, 1 inch thick. The boxes are held together by an iron rod on either side, fastened to the side of the lower box with a bracket, and passing up through the cover, with a bur on the top to screw down, making all tight and solid. These burs can be taken off and top boxes removed to secure surplus honey. He has never removed but one box, but has cut and taken some honey out of the next box. The 4 lower boxes have never been taken apart.—For several seasons he has used a 50 lb. cap on top.

The alighting boards (there is an entrance on each side) are set at an angle of 60 degrees, and run together in the center, and running well down at the lower edge, giving the bees about 8 inches of surface to alight upon. It stands on 4 legs, 15 inches long, bracing out like the legs of a saw-buck.

The bees have never been fed, never showed signs of disease and have always been very numerous. They are the common black bees, but not inclined to be cross or troublesome.

Some of the combs in the lower boxes look as black as tar.

WILD BEES.

There has been a vast number of wild, or stray swarms passing to and fro in this vicinity, this year. Many "bee trees" have been found. Bees were never known to increase so much before. I know one farmer who had a few colonies last spring that increased so, he got tired of making hives and put some into nail kegs, salt barrels, old boxes, &c., but most all have prospered nicely. Besides all this, he let several swarms go away for want of care and hiving.

CATCHING BEES IN A RABBIT TRAP.

Two little boys had a rabbit trap (an inverted box) set last winter, half a mile from where my bees were kept. When the trapping season was over, they carelessly left the box setting on the ground, bottom up.—The first of July a nice colony of bees, with plenty of honey to winter on, was found in it.

Several swarms have been caught by fastening hives up in trees. One man caught a swarm of nice Italians in this way.

THE WREN AS A BEE PROTECTOR.

After the other birds had deserted my martin box, a pair of wrens took possession of it. They are now raising their brood. I have often seen one of them skipping about the bee-hives, getting upon the alighting boards, going under the hives, passing from one to another,—apparently having no fear of the bees, nor attracting their attention in the least. I think its object is to obtain

bee-moths. Think it would be well to encourage these little birds to build their nests in the apiary. This may be easily done by fastening little boxes under the eaves of out buildings, to fence-posts, or in trees, as the wren will readily select such a place for her nest, and a little box suits her taste exactly.

The early part of this season was very favorable for obtaining honey; but lately, bees have been doing very little.

C. W. McKown.

Gilson, Knox Co., Ill., Aug. 5, 1878.

For the American Bee Journal.

The Wild Onion as a Honey Producer.

I write this to call the attention of our brother apiarists to a valuable plant for honey—the wild onion. If farmers can tolerate it in their pasture it would be very valuable. It begins blossoming here about July 20th, and continues for two to three weeks. I am located 6½ miles south of the court house, in Chicago, at Englewood, and at present the prairies around, as well as railroad tracks, are covered with its delicate pink-white blossom, and my bees are gathering it fast. I can smell the onion flavor coming out of the entrances blown by the busy wings of the bees ventilating the hives and thereby ripening the honey. The onion flavor thus passes off, and when the honey is ready to be sealed you could not tell it from white clover; though I extracted some of it three years ago, and my better-half always insisted that she could taste the onion flavor; probably in consequence of taking out before it was well sealed over. The blossom is borne on a single delicate stalk, size of a knitting-needle or a trifle larger, from 9 to 15 inches high, from which it drops over in a bunch of 8 to 12 small single flowers branching from the upright stalk. I do not think Prof. Cook enumerates this in his "Manual," and yet I think it very valuable, as it comes in a season when there is little else but buckwheat, and as its honey is white as clover, it is worth cultivating possibly. I should not plant it in pastures, as I presume it will give its flavor to the milk and butter, but in waste places, &c., it would help out the August supply very materially.

R. J. Colburn.

168 State St., Chicago, Aug. 2, 1878.

For the American Bee Journal.

The Purity of the Queen.

Whether or not spots and crowns upon the body of the Italian queen bees are a necessary test of purity I am unprepared to say, and have strong doubts. I have bred queens from mothers with and without spots and crowns, with equal results, to all appearance, of genuine purity. We are forced to judge of the purity of the queen more from her progeny than from the appearance of the queen; they vary so much in color.

If I wanted a queen that would duplicate herself in queen progeny, under the same conditions, I would cross with the black bee, then breed out the black blood so far as to secure a brilliant color in the daughter. The point is then gained, but the original purity lost.

I first secured the Dr. Parsons' stock (as I understand it), through the Rev. L. L. Langstroth, of Ohio, and they were indeed beautiful bees, but not so active, to all appearances, as importations since made from Italy. I herewith send you for examination a queen, daughter of an imported mother, bearing the spots or crowns of so-called genuineness, but claim nothing superior for her on that ground.

A. Salisbury.

Camargo, Ill., Aug. 12, 1878.

For the American Bee Journal.

Motherwort as a Honey Plant.

(*Leonurus cardiaca L.*)

Perhaps none of our common herbs promises better, as a honey plant, than the one in question. It is a very hardy perennial, and once introduced in waste places, it is sure to hold its own, until it becomes desirable to extirpate it, when, at man's bidding, it quickly lets go its hold, so that it is not a dangerous plant to introduce. The blossoms appear at this place, about June 25th, and persist for a full month, and during the entire time, are crowded with bees, whatever may be the

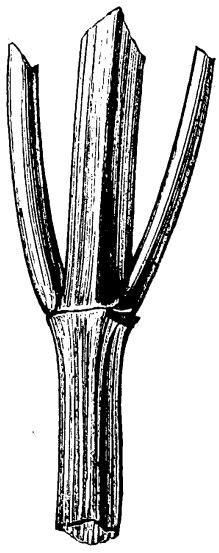


FIG 1

character of the weather, whether wet or dry, warm or cool, whether the plant is in the midst of honey plants or isolated. We are thus assured that the plant is constantly secreting nectar, and is also a favorite with bees. Rape, mustards, and borage seem indifferent to the weather, but are not favorites with the bees. Motherwort, then, has three admirable qualities: It is long in bloom, the flowers afford fine honey at all times, and it is a favorite with the bees. If it could be made to bloom about three weeks later, coming in just after basswood, it would have nearly all the desired qualities. I think that we might bring this about, by mowing the plants in May. I am led to this

opinion, from the fact that some plants which we set back by transplanting in May, are still in bloom this August 10th, and are now alive with bees, dividing their attention with the beautiful cleome, which is now in full bloom, and fairly noisy with bees.

DESCRIPTION OF THE PLANT.

The stalk is square, (Fig. 1) branching, and when cultivated, attains a height of

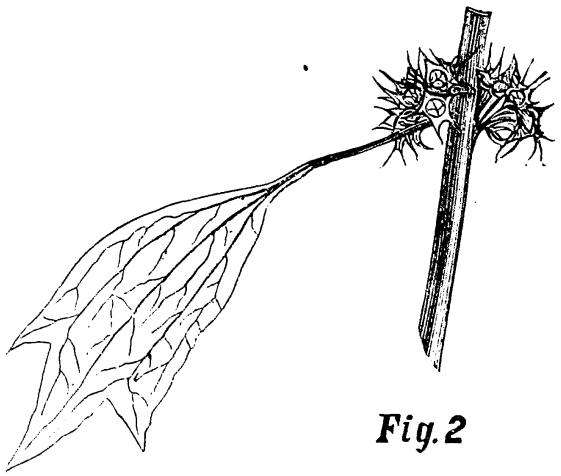


Fig. 2

some four feet; though as it grows in waste places, it is seldom more than three feet.—The branches, and also the leaves are opposite, (Fig. 1 and 2) and in the axiles of the latter, are whorls of blossoms, (Fig. 2 and 3) which succeed each other from below to the top of the branching stems. The corolla is like that of all the mints, while the calix

FIG. 3.

has five teeth, which are sharp and spine-like in the nutlets as they appear at the base of the leaves (Fig. 2). As they near the top, the whorls of blossoms and succeeding seeds are successively nearer together, and finally become very crowded at the apex (Fig. 3). The leaves are long and palmately lobed (Fig. 2). The small blossom is purple.

The figures were drawn from the plants by W. S. Holdsworth. A. J. COOK.

Mich. Agricultural College, Aug. 10, 1878.

For the American Bee Journal.

Standard of Purity.

EDITOR BEE JOURNAL:—I am greatly interested in the question of the standard of purity in Italian bees. Of course every bee imported from Italy is an *Italian* bee, and it seems plain that there are *dark* as well as light queens imported. Nor is it fully established that *all Italian* bees are equaly good, *i. e.* prolific, industrious and gentle—or rather that these qualities do not, in any degree depend upon *color*. That is the *primary* point to be settled. If decided affirmatively, so far as color goes, we *can* have no standard for *utility*, and only one for *fancy* and *uniformity*. It seems clear to me that if it can be done without sacrificing better qualities, a standard of color is exceedingly desirable. For instance, I have purchased several so-called Italians from persons in different parts of the United States. My own bees are not of the blackest, as several years ago some Italian blood was introduced into the apiary, from which they came; still they are probably called black bees; and yet I can scarcely distinguish the progeny of an Italian queen sent me from Georgia and that of my own queens. One of a leather color from Oatman, last year, was plainly different from my own, but was lost in introducing in September last. I have now one from Alley, of a fine light leather color, larger and finer than I have before seen. She is laying and I hope to see in her a mother of bees quite different from my own. I also expect another from friend Oatman soon, and have faith that in the end I shall get my colonies *Italianized*, but will they be dark, lightish, or yellow? Who can tell? It seems to me that before we adopt a standard of *color*, we should adopt one of *value*. Are we prepared for the question? Let us have light on the *primary* question. MRS. N. P. COLTRIN.

Centralia, Ill., July 24, 1878.

[It certainly is *not* fully established that the prolificness, industry and gentleness of Italian queens "do not in any degree depend upon color!" On the contrary, we do know that the darker queens are more prolific and produce more industrious bees! Therefore the production of "the golden beauties" is usually at the expense of other esteemed qualities. The point raised by Mrs. Coltrin is "well taken"—the standard of value must determine the standard of purity. Let us have *light*, even if it turns the "brightness" of queens into comparative "darkness." Let there be light.—ED.]

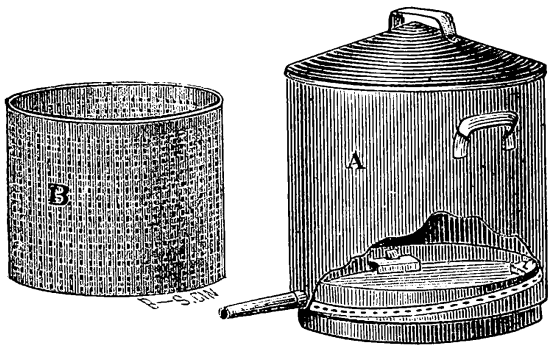
For the American Bee Journal.

Wax Extractor.

MR. EDITOR:—"Please explain in the next number of the JOURNAL how to get dirt and trash out of wax? I have a great deal of trouble with my wax, and would like to know how to prepare it without dirt or trash." A SUBSCRIBER.

Sumter Co., Ala., Aug. 9, 1878.

[First get a Wax Extractor. With it the pieces of comb can readily be made into nice cakes of wax. The boiler should contain boiling water, and the pieces of comb be placed into the comb holder and put over the boiler where the steam, coming up through the holes made for that purpose, converts the contents of the comb holder into the brightest of yellow wax. A vessel should be placed under the spout, to catch



WAX EXTRACTOR.

the wax as it runs out. This should have a piece of fine wire-cloth over it to strain out all remaining impurities. When it is desired to pour the wax off into pans to cool—the top of it should only be poured off, letting the "dregs" remain. Cover the pan where it is poured off to cool, so as to keep it from cooling too rapidly on the top, and thus prevent its cracking. Should the wax be burned, in the least, it is ruined. If any impurities have settled at the bottom of the pan, it should be cut off from the the cakes of wax before shipping, as such would detract from its value much more than the weight of the impurities cut off would amount to. The Wax Extractor will cost, with copper-bottomed boiler, only $5.—ED.]

For the American Bee Journal.

Visit to Oatman's.

Taking advantage of a very cool day in June, I drove across the country to Dundee. I had had considerable dealings with the Oatmans, and always found them very pleasant men to deal with, so I was not surprised to find them pleasant and intelligent bee-keepers. They had nearly 200 colonies of bees which they keep right in the village, every thing being kept neat and tidy about the hives, and I think I never saw any bees that equaled theirs for good nature. Although the day was so cold that I wore an overcoat all day, the bees showed no ill nature even when frames were lifted out and the queen shown without the use of smoke. Although they sell bees and queens, they seem to attach more importance to the honey crop. Their hive, the "Modest," I do not think I should like so well as the regular Langstroth, the frames being deeper, but they have a few colonies in hives that ought to satisfy the most ultra on the shallow hive question, the frames being only 5 inches deep. They say they work nicely for box honey, only that the bees persist in swarming too much. I was quite interested in seeing their plan for using comb starters in boxes, the essential part of which, although very simple, was quite new to me. Mr. Oatman showed me the operation by placing the honey box upside-down, then cutting the piece of comb about an eighth of an inch longer than the depth of the box, then running one edge of the comb through the lower part of the blaze of a lighted candle until partly melted. He put this melted edge on the place where he wanted it to stay on the bottom of the box (which, when righted would be the top), and crowded the other edge into place. It is very quickly and easily done. B. LUNDERER.

For the American Bee Journal.

Visit to T. S. Bull's Apiary.

The location is pleasant, being one of the highest and most productive in northern Indiana, some 12 miles from Lake Michigan.

The country abounds in honey-producing plants, among the most important of which are white clover, basswood, buckwheat, golden rod, and the usual variety of fruit blossoms.

This apiary is situated on a gentle incline towards the south, protected on the north by a high, tight fence.

The hives are arranged in rows, about 10 feet apart, and 3 feet apart in the rows.

Mr. Bull manufacturers his own hives on his own plan. They are furnished with movable frames and also with boxes for comb honey.

In connection with his apiary, Mr. Bull has a work-shop put up especially for the manufacture of hives, and for other work connected with the apiary. Under this shop he has a cellar for storing his bees in winter. The cellar is neatly-finished with dressed lumber, and furnished with a thermometer, and also with a stove for heating when necessary. This apartment is well ventilated above the hives. Mr. B. thinks thorough ventilation and the absence of moisture are the most important requisites to successful wintering.

He appears to be a natural bee-keeper, having taken great delight when but a boy at home in watching the operations of bees, and working among them in a fearless manner; since which time he has given more or less attention to the apiary, until 1871, when he gave it his whole time and study, thus bringing his apiary to a state of perfection

in scientific management. He increases his stock of bees to the desired extent by allowing them to swarm naturally, letting each colony swarm but once, which he thinks is enough when strong colonies (and consequently plenty of honey) is the object in view, as one strong colony will yield more honey than 2 or 3 weak ones, the number is of not as much importance as their strength.

Those desiring to visit this apiary are welcome at all times, and shown through the premises with pleasure.

The apparatus for making hives, pressing foundation comb, extracting honey, and the swarm catcher are novelties to the inexperienced.

Mr. Bull is a constant reader of the best books on bees: The AMERICAN BEE JOURNAL, the *Magazine* and *Gleanings* are regularly perused.

The honey harvest in this locality has not been abundant, on account of wet weather in the early part of the season and a dearth of basswood honey. During the last 3 weeks, since white clover withered, bees have stored very little honey. The prospect now for fall honey seems to be good—much buckwheat having been sown; this is just coming into bloom and bees are lively at work again. D. W. KEELER.

Valparaiso, Ind., Aug. 10, 1878.

For the American Bee Journal.

Bee Tea—a Valuable Medicine.

You have heard of the homeopathic medicine, Apis (made from the poison or sting of bees), which is a valuable remedy for bee stings. Taken internally it neutralizes the poison and removes the sometimes dangerous effects of the sting. But you will no doubt be surprised when I tell you that the poison or essence of bees, or rather bee tea, has proven a valuable remedy for a dangerous and painful disease, as it has lately done with old Dr. Hampton of this city.

The doctor had suffered, and no doubt tried every remedy known to the profession, when one night several weeks ago a colored woman aroused us and said, "Dr. Hampton wants you to put about a dozen live bees in this tin cup, and to pour hot water on them until the cup is about half full." The night was very dark, but with the aid of a light, and after being stung severely for disturbing the little fellows at such an unseasonable hour, secured the bees, and prepared them as directed.

A few days afterward I met the doctor on the street, apparently well and healthy, and asked him how the bee tea acted and what it was for. He answered very emphatically, "It acted like a *charm*. I have suffered with involuntary retention of urine; have tried many remedies, but this bee tea beats them all." And with a thankful look of gratitude to Heaven, he continued: "When the great Creator completed this great world of ours, he pronounced it *all* good, and it *is* all good, if we poor mortals only know how to use and employ the blessings we enjoy."

The doctor tendered me a thousand thanks for furnishing the bees; the pleasure and satisfaction of knowing a sufferer had been relieved, and that thousands more may yet be relieved with this simple and harmless remedy, will always be remembered with pleasant satisfaction. W. WILLIAMSON.

Lexington, Ky., July 29, 1878.

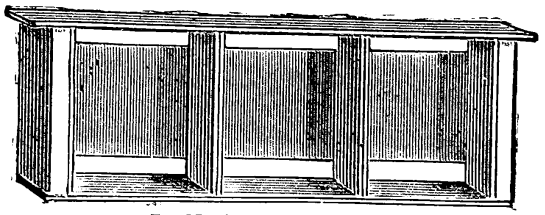
For the American Bee Journal.

Surplus Boxes.

"I have taken honey from 26 hives—over 1,000 lbs. of comb and 100 extracted. The most from one hive of black bees is 80 lbs., the least 22 lbs. The most from Italians 70 lbs., the least 35 lbs. In the brood chamber are 9 frames, size 14¼x10 in the clear. My supers are of all kinds, nearly. I think I shall buy the 'prize boxes' for next year. I have had over 200 combs built by colonies, all straight. I used comb guides of foundation 2 cells deep, run on with a straight-edge; the same for sections, which are 2 inches from center to center; no separators; all straight, except an occasional one, when starting upwards, will make an ugly comb. Why not have the slot in the center of bottom piece of frame? Why not have paper boxes for surplus honey? properly prepared, say top piece corrugated or plain, for I took nice honey from a box with a brown muslin top; the sagging was a regular curve. Let us go to work at something light and cheap. Wire might do better; has any one tried it? Or have plain wood box, cut out honey, sell at 10-cts. a pound." PETER JAMES.

Waveland, Ind., July 24, 1878.

[The slot in the center of a "Prize Box" would come just where the comb should be fastened, and in the center of it, too.



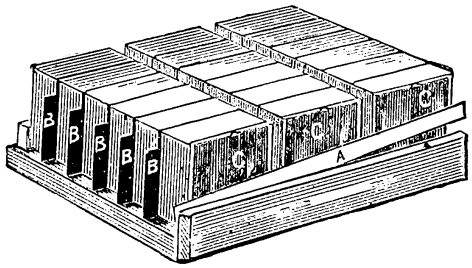
LANGSTROTH CASE.

The bottom-bar needs to be ¼ inch narrower to admit the bees and give room for glassing. Would not paper boxes cost even more than the "Prize Boxes?" We think so. Then wherein are they to be desired?

Comb-foundation in surplus boxes, used two or three cells deep, will do very well, but when more is used it is a positive injury to the market for comb honey. We have had some honey in prize boxes that contains a regular "fish-bone." Comb foundation was used from one-half to two-thirds of the way down. Our customers frankly tell us they do not want any more of it. We used some of it, and found, to our disgust, that the complaint was well founded. Therefore let us insist that comb foundation be *not* used for surplus honey, except for starters of about one-half an inch in depth.

Another lot of honey had natural-comb starters of liberal size, and so *dark* that it could be distinctly seen through the honey. This is *worse* than the use of comb foundation, for the flavor of the white clover honey was almost destroyed by the old and blackened comb used for starters. If natural comb be used in surplus boxes, it *must* be new and nice. Any other is but a damage to its sale as well as to its flavor.

"No separators"—an "occasional ugly comb!" The one is consequent upon the other. Separators are a necessity, if all straight combs are desired! And they should be one inch narrower than the boxes are in height—and that will give one-half of an inch at both top and bottom for means of communication between boxes. Some, this season, used them the right width, but had them close up to the top—giving the bees *no*



COMB-HONEY RACK.

means of passing from one comb to another without going down to the bottom—but the worst feature of it was the fact that as soon as the bees got below the separator they lengthened out the cells, and packing was thereby made deficient, while glassing was impossible. The right position for the separator is shown on page 311, in the cut of a case for a Langstroth hive. When the Comb-Honey Rack is used, the same relative position must be maintained. If it is desired to make the "Boxes," "Cases" or "Racks" at home, it will save much annoyance if all will take pains to procure one as a pattern, to be sure they are right, before they "go ahead." Large packages and odd sizes of boxes bring a much less price than the regular "Prize Box." That is the standard package for wholesale and retail, and it will pay *all* apiarists to adopt it.

Wire for top-bar, with starters fastened, has been tried and it is not a success.

It is best, in shipping comb-honey, to turn the boxes on their top bar, for strength. With a "muslin top" this cannot be done.

To use a large wood box and cut out the honey would be to retrograde 50 or 100 years—and adopt a plan long since proved very undesirable.—ED.]

For the American Bee Journal.

Standard of Purity.

FRIEND NEWMAN:—I was interested in reading those articles under the above heading. Queens that will produce such wonderful results are remarkable queens indeed. My experience with the Italians covers a period of 17 years, and I have probably reared 15,000 queens, but I never had a queen to come up to the standard of purity, as pictured by several correspondents, and *they* only give it as a matter of opinion, I believe.

My experience has been, that while a queen would produce beautiful royal and worker progeny, she would not produce *three* banded drones; in fact, drones from such queens are seldom handsome. The color seems to run all one way, either to the drones or to the workers and queens.

Some 12 years ago I purchased a beautiful queen of a well-known breeder; the worker and queen progeny were beautiful, but the drones were as black as any common drones that I ever saw. Was such a queen impure? By no means, for all her young queens that were fertilized by handsome drones were as pure as their mother.

In rearing queens, those mothers that produce the handsomest workers should be used, and only handsome drones to fertilize them. Then can the standard of purity be maintained. Queens and drones from the same mother should not be permitted to mate. Like does not produce like, in breeding bees, any more than in the breeding of any other animals. Friend Moon says he has no queens that will duplicate themselves every time. I have had many such queens, and hundreds of my customers can testify to the fact. I have such queens now, and would not attempt to rear from any others. Imported queens will not do it. Their royal progeny will be almost all colors, from black to very light-colored—although I have had some that would produce a majority of yellow queens.

That all queens will not duplicate themselves every time is an established fact.—The thing is impossible. Time, and friend Newman's space will not permit us to say more now, and we will drop the subject here.

SENDING BEES BY MAIL.

Queen breeders and their customers will be put to some inconvenience on account of fresh orders by the Post Master General, forbidding bees to be sent in the mails.—The story that some one put a lot of bees in a paper box and mailed them at some office seems to me to be a very improbable one, and appears much like a put up job.—No bee-keeper can be found in the country who would attempt to do such a silly thing. Nevertheless, reports have been sent to headquarters, by some officious postal agent, that such was the fact; hence the order to shut the bees out.

I called at the post office in Boston the other day to see the postmaster there, and to get a lot of my bees that some of his underlings had detained. The postmaster being absent, I did not see him, but I learned that he knew nothing about the bees being de-

tained there as unmailable, and reminded their clerks that there the postmaster had decided within a month to let bees pass, as he had received no orders not to receive them. I had paid letter postage on those packages, and they had no more right to break the wrapper than they have to open my letters. Government officers go on the principle that "might makes right," and so we have to put up with it. I told them that I had been sending bees through the mails for 15 years, and they had just found out that bees were not mailable. This new order won't injure the trade much, as I can find a way to get queens to my customers at very little expense. A dozen queens can be sent by expresss about as cheap as by mail, and rather more safely.

Let the bee-keepers of the country pile in the petitions to Congress until we get relief. Don't let up, until we get what we want.—Bring the subject before the Convention, in October. By the way, friend Newman, while we think of it, can't those who intend to visit the Convention to do the talking, go prepared to commence business as soon as the Convention opens? We don't want to attend another Quaker meeting, like the one last year. No one knew where to begin, and we were kept awaiting for the officers to put in an appearance. Be on hand Mr. Secretary and Mr. President, and let us have a large attendance. H. ALLEY.

Wenham, Mass., Aug. 12, 1878.

[We hope all who can will attend the National Convention, as many points of vital importance will come up for discussion. The next Convention will be in the West, as agreed at the last Convention—and thus early we inform all concerned, that we propose to try to get it appointed at Chicago, or at least in some Western city.—ED.]

Chips from Sweet Home.

Dr. N. H. Derr, has just given me a fraternal call, also an idea which I must give you, viz.: To ship comb honey in a car safely, make a strong platform 6 inches narrower and 2 ft. shorter than the car inside; have this hang 2 in. or more from bottom of car by a number of ½ in. rods attached at the top of the sides of the car and platform by cock-eyes, these would allow the platform which contains the honey to swing back and forth whenever bumped. Has such ever been tried? What are the objections to it? Would the railroad company ship our irons and platform back to us free? Would you put springs at each end; if so what kind would be best, and the cost? The platform can be made strong and cheap and given away at the end of the route; the irons can be packed in a box and returned as freight. The cock-eyes can be made with a coarse thread and screwed in the timber.

"OUR HOMES," IN GLEANINGS.

Just as you all might expect, and from past experience, I knew Novice would try to make right any wrong that he had done, so he made a correction from "Perhaps a half dozen similar letters," to "Perhaps, I should have said letters from a half dozen different persons." Now, Novice, we would still follow up and have you correct this, but fear it would take too much valuable space in the AMERICAN BEE JOURNAL; not that we fear of using valuable space in "Our Homes."

There is much of "Our Homes" that we like, and like R. Wilkin, only object to the "superstitious" part.

In "Our Homes" of July, 1877, Novice did fill it with good sense, and for once left out the superstitious part. It pleased me so well that I at once wrote him how well I was pleased, and to show my pleasure in a more substantial and lasting way, I offered him a half dozen Sweet-Home raspberry plants. In answer to which he says, on card of Aug. 1, 1877: "Thanks for offer of berry plants. Would be very glad of them." I sent them, and March 22d, 1878, he wrote me: "Accept thanks for the plants sent us. We will plant and care for them, and report in *Gleanings*, if we can remember it." O. K. Now, Novice, if you will give us an article in "Our Homes" upon being *honest, truthful*, or *having government in our families*, without any superstition, I will send you a grape vine of Early August, which ripens from the 12th to the 15th of August with us. Yesterday, August 12, we took some to Muscatine, and they were pronounced good by all who tasted and judged them. They ripen two weeks sooner than any variety we have. The vine is perfectly hardy, and never has winter-killed.—Growth of the vine is similar to the Concord. Leaf large and round. Berries larger than Concord, but not quite as good flavor, slightly foxy, bunch compact, from 6 to 12 berries in a bunch. We have none for sale, but we will send one to Novice upon the above conditions. We have written Novice three letters in reference to "Our Homes." If he will print them in "Our Homes" *verbatim*, I will send him one Early August. Novice, when you go to fill up "Our Homes," think of what three wise and good men have said, viz: Jesus. —"And as ye would that others should do to you, do ye even so to them." Zoroaster flourished in Persia about 500 years before Christ, and said: "Hold it not meet to do unto others what thou wouldst not have done to thyself. Do that unto the people which, when done to thyself proves not disagreeable to thyself." Confucius, who was born on the 19th day of June, B. C. 551, gave, among other good and wise maxims: "Do unto another what you would he should do unto you; and do not unto another what you would not should be done unto you. Thou needest only this law alone; it is the foundation and principle of all the rest."

Novice, if you had read the above wise and good sayings, you certainly would not have been so hypocritical as to say in "Our Homes" of Aug., "At the time, I was not a believer in the Bible, or at least *I claimed I was not*, and he seemed to rejoice when he had discovered the *fact*." In the fourth column, of "Our Homes" of August, Novice says: "If you were crossing a stream, and should see the water coming down all roiled

and muddy, you would infer that somebody or something was above stirring it up."—While reading "Our Homes" of August, we concluded that if there were such a being as Satan, that he certainly had been stirring you up, for in "Our Homes" you were very roily and muddy, but with so much roil and mud as you there wanted to expell, you now certainly must be clear and spotless. D. D. PALMER.

New Boston, Ill.

[Dr. Derr's plan strikes us as very feasible. Will those having had experience in shipping comb-honey give their opinion of it through the BEE JOURNAL? To give away the platform and ship the irons back by freight would pay, even if the railroad companies would not ship them back free.—ED.]

For the American Bee Journal.

Bee-Killer.

After a most promising, early summer, I found again, this year, that my bees, although in the best of order and colonies strong, although they had plenty of pasture, all of a sudden almost stopped working, and evidently became less in numbers. I at once became suspicious of the bee-killers: *asilus Missouriensis*, *asilus sericeus*, *erax bastardi*, which I also found in innumerable numbers among the flowers, buckwheat, &c. It was, I think, 3 years ago when last they were here. My statements were then somewhat doubted. This year I have settled the point. This pest is now nearly gone again. After they have slaughtered the bees, and almost the day they began to disappear, my bees commenced to fly again, and my trial hive, on the scale, began to increase in weight; while, as long as the bee-killers lasted, it decreased.

This year they came about a month later than they did three years ago, probably bred by the heat of July. I am afraid that my honey crop will fall short, one-half. They were so numerous this year that killing was useless. You might as well kill the butterflies on a clover field.

CHAS. SONNE.

Sigel, Ill., Aug. 16, 1878.

For the American Bee Journal.

How shall we know when Italian bees are pure?

REV. M. MAHIN, D. D.

I have been an amateur bee-culturist for the last 8 years, and during all that time, I have had Italian bees. I have given them a great deal of attention and study. I have carefully observed bees of that race wherever I have seen them, and my own colonies have been studied so closely that I could, in some cases, tell, when I would see a bee away from the hives, to which hive it belonged. It has been my desire to have pure bees, and I have sacrificed a great many queens, and some pretty good ones to my ideas of purity.

But how can we tell when our bees are pure? I am pursuaded that this is a much more difficult matter than most persons imagine. I am very sure that in some cases the offspring of pure Italian queens, mated with black drones, are so nearly like pure Italian bees, that even the most practiced eyes are liable to be deceived. And if a half-blood queen mates with an Italian drone, her offspring will be, in most cases, as light-colored and beautiful as any full-blood Italians, and I am not sure but more so. Those who have observed the progeny of a black queen, impregnated by an Italian drone, have noticed that while a majority of the bees were entirely black, a few of them had 3 golden bands of lighter color than the average pure Italians; and my observation leads me to think that the lightest colored bees have a dash of black blood in them, but I think that impure bees are only light colored when the impurity is in the mother, and not in the father.

Some of those who have written on this subject have recommended selecting those stocks, to breed from, that have well-marked drones. I do not think it safe to follow this advice. The most beautiful drones I ever saw were the progeny of a queen whose mother was black, and whose father was an Italian. She, herself, judging by the appearance of her offspring, had mated with a half-bred drone. The drones were more uniform, and far more distinctly marked than the workers. There was not one to be seen among them that had not 3 broad, golden bands. They were such beauties as would have captivated our fancy bee-raisers, who seek to improve the color of their bees by special attention to the drone side of the house. And yet, they were not more than half Italian; so it will not do to rely upon the color of drones as a mark of purity.

If we can raise bees that are in all respects like the bees in Italy, we may rely upon their being approximately pure. But, what kind of bees inhabit that sunny clime? Are they all of one race, and of one type? I have never had an imported queen until this summer, though I have long desired to have one. I procured one, if she did not get changed by some accident for a home-bred one, imported by C. W. & A. H. K. Blood. I expected the bees to be darker than my home-bred ones, but I expected them to be uniform in color. In the latter I was disappointed. They range from a color as light as the average home-bred Italians, to a shade not much lighter than our brown bees of this country. Many of them do not show the third band when not moderately full of honey, but when filled they all show 3 bands. Are they pure Italians? If the queen came from Italy, yes. If a mistake has been made, and she is a home-bred queen, no. The bees, as to their appearance, are not like any mixed ones I have ever seen. They are easily controlled, but not as quiet when handled as Italians generally are. The queen is *very* prolific, and as honey gatherers and comb builders, especially the latter, they very noticeably excel my old stock. And

as we want bees for the honey they gather, these dark bees are as good as if they were beautiful.

I have been raising some queens from my imported Italian. Three of them have been tested. One mated, I think, with a black drone; but while her bees are darker than those of her mother, there are no black bees among them, as sometimes happens when my home-bred queens, coming from lighter stocks, mate with black drones. The bees of another are larger and more uniform than those of the imported queen, the bands being more red than yellow. The bees of the third are beauties—large, uniform and bright.

I take it for granted that the Messrs. Blood are honest and careful, and that they sent me an imported, and consequently a pure queen; but I have had to change my mind somewhat in regard to the marks of purity. I have no doubt but that I have killed pure queens, thinking they were impure, and have retained some as pure that were not.

Logansport, Ind., Aug. 16, 1878.

For the American Bee Journal.

The Adulteration of Sweets.

I sent, at the same time, the petitions on the adulteration of sweets to the editors of three bee-publications. Messrs. King and Newman inserted it cheerfully, but Mr. Root did not honor it with a place in *Gleanings*. On the 3d of August, I sent him a postal card, asking why he had not published it. This was his answer:

"I beg pardon, but the petition against adulteration of sweets did not seem to me of sufficient importance to entitle it to a place in the journal."

This petition was unanimously recommended by a vote of more than 70 bee-keepers at Burlington. It is against fraud, and in the interest of all bee-keepers.

The adulteration of honey being now practiced on a large scale by unprincipled dealers, the Legislature of Kentucky has passed laws against it. It is under all these circumstances that Mr. Root refuses the petitioners the right of being heard in his paper.

A prominent bee-keeper and honey-dealer, Mr. C. F. Muth, of Cincinnati, after reading a copy of the petition wrote thus:

"Glucose is the greatest stumbling block to the honey trade, and consequently to the bee-keeper.—If it is once known to the public that glucose is fed to the bees by the bee-keeper, it will work a greater damage to the honey trade than we may imagine. I was offered, last week, a sample of extracted honey, of which the party had a few barrels. I would almost swear to the fact that it was adulterated with glucose. Of whom will it be safe to buy pure honey after awhile?

Mr. Root's course in recommending glucose to bee-keepers, is very reprehensible! I certainly think it very wrong in him. His course in regard to glucose is very damaging to bee-keepers."

In answer to my request for permission to publish extracts from his letter, Mr. Muth says:

"If *Gleanings* was started to represent the interests of the bee-keeping public, it has certainly now turned into another channel!"

The last sentence is hard upon Mr. A. I. Root; but, in my opinion, he richly deserves it! By looking on the cover of *Gleanings*, every one will find the reason for the refusal of its editor to publish the Petition. Mr. Root, by advertising and extolling glucose, has created a large demand for it. He sells it by tons, (see *Gleanings* for May, page 161), at a large profit, and does not wish to stop his trade, by publishing our Petition!

An honest editor, an editor devoted to the interests of bee-keeping would have given both sides—for or against glucose! But in *Gleanings* you will find praises, but not a word against its use! According to Mr. Root, what was said against glucose in bee papers, were *mere sensational reports.* (*Gleanings* for April, page 110). Yet Mr. Muth wrote to him on the subject. I, too, at three different times, wrote to Mr. Root, that glucose contained but 30 to 40 per cent. of sugar; that 2½ lbs. of glucose at 5 cents per pound, worth 12½ cents, given as food to bees, was not more nutritious than one pound of sugar, worth less than 11 cts.; that 3 pounds of solid glucose, that he improperly calls "grape sugar," at 3½ cents, worth 10½ cents, were equivalent to one pound of sugar, worth about the same price. Glucose is about 3 times less sugared than cane sugar. Sugar is a better food for bees than glucose, on account of the quantity of refuse matter among the constituent parts of glucose; not even taking in account the unwholesomeness of the sulphuric acid, sucrate of lime, &c., always present in glucose!

The following will give an idea of the quantity of waste matter contained in glucose: Some American wine producers, to increase the quantity of their wine crop, mix in some glucose, dissolved in water.—The sugared particles of glucose are transformed in alcohol by fermentation. Everybody knows that alcoholic liquids are lighter than water; but wine that is made with the addition of glucose, although containing alcohol, is heavier than water, on account of the mineral water that it contains. For this reason, it is impossible to determine with the areometer, an instrument to find the specific weight of liquids, the quantity of alcohol contained in glucosed wine, and a small still has to be used for that proof.

I wrote also to Mr. Root that glucose was tried in the hospitals of Paris to sweeten the beverages of the patients, but that it was soon abandoned on account of the increase of deaths; that the use of glucose to make beer is forbidden in Germany; the beer thus made having proved unwholesome; that the manufacture of dry glucose is forbidden in France, on account of the facility of mixing it with brown sugar, &c.

Did Mr. Root publish my letters? Did he ever mention them? No! They were *not of sufficient importance!!!* Yes, Mr. A. I. Root, they, and the Petition were of sufficient importance to threaten to stop your profits by sales of glucose, and that is the reason—the true, the only reason—why you did not publish them!!

Now let bee-keepers understand that we have not only to fight the adulterators, but the selfishly-interested editor of *Gleanings!* But, no matter! We shall obtain

the law that is necessary to the wellfare of our business; for every honest bee-keeper will lend a helping hand, by sending for a copy of the Petition, then having it signed and returned.

Every day, I receive orders for copies of the Petition. I have already received some returned and signed. Dr. D. G. Campbell, of Keitsburg, Ill., has just returned one, signed by seventy, headed by the names of four physicians! Who will beat that?

CHAS. DADANT.

Hamilton, Ill., Aug. 14, 1878.

Constitution of National Society.

As we shall need this, as amended, to refer to at our next meeting, we will reproduce it, that all may be posted as to what it requires:

CONSTITUTION.

ARTICLE 1—NAME.

This organization shall be known as the North American Bee-Keepers' Society, and shall meet annually.

ARTICLE 2—OBJECT.

Its object shall be to promote the interests of bee-culture.

ARTICLE 3—OFFICERS.

The officers of this Society shall be a President, one Vice President from each State, District, Territory or Province represented; Secretary, Recording Secretary. Corresponding Secretary, and Treasurer, whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their offices for one year, or till their successors shall be elected.

ARTICLE 4—EXECUTIVE COMMITTEE.

The President, Secretaries and Treasurer shall constitute an Executive Committee.

ARTICLE 5—MEMBERSHIP.

Any person may become a member by giving his or her name to the Secretary and paying one dollar, excepting ladies, who shall be admitted free of charge.

ARTICLE 6—HONORARY MEMBERS.

This Society may from time to time elect suitable persons as honorary members.

ARTICLE 7—SPEAKING.

No member shall be entitled to the floor more than five minutes in the discussion of any motion, resolution or petition, without consent of the Society.

ARTICLE 8—COMMITTEES.

All committees shall be elected by ballot, by a plurality vote, except by special resolution.

ARTICLE 9—MEETINGS.

Each annual meeting of this Society shall be held at such time and place as shall be designated by a majority vote at the preceeding regular annual meeting.

ARTICLE 10—SPECIAL MEETINGS.

A special meeting may be called by the Executive Committee at any time on requisition of five of the Vice Presidents.

ARTICLE 11—AMENDMENTS.

This constitution may be amended at any annual meeting, by a two-thirds vote of all the members in attendance.

Adopted at meeting at Cleveland, Ohio, Dec., 1871.

CONSTITUTIONAL AMENDMENTS.

Article 5, amended as follows: Any person may become a member by giving his or her name to the Secretary, and paying an annual fee of one dollar, except ladies, who shall be admitted free of charge. Adopted Dec., 1872.

SOCIETIES.

Resolved, That the President of this Society be authorized in its name and behalf, to address a circular to all the bee-keepers of this Continent, urging the formation of neighborhoos, county, state, territorial and provincial associations, auxiliary to this Society. Adopted Dec., 1872.

VICE PRESIDENTS AND SECRETARIES.

Articles 3 and 10 amended, so that only one Vice President and one Secretary are required to be elected. Adopted Oct. 16, 1877.

For the American Bee Journal.

Various Items.

The honey season is over in this section. Last season was one of the best we have had for years, but I believe the present one would have been far better but for the cold, wet weather that continued till about the 10th of June. I had become completely discouraged by the 1st of June, and thought I would be very glad if my bees made enough to winter on and give me enough for the table. After the tenth of June, we had a few pretty warm days, at intervals which bees took advantage of, and gave me about 2,000 pounds, besides laying up full winter supplies. Very little swarming,—not more than one colony in ten swarmed.

QUEEN RAISING

in such a season was of the greatest difficulty and expense. But few of the brood would hatch; many of the queens were lost in their "bridal tours," and when the hot weather set in, many colonies were ruined.

EXCEPTIONS TO GENERAL RULES

are of frequent occurrence, and I will relate one that occurred with me this season: I received an imported queen early in June, and gave her to a queenless colony that I knew would accept her, although she was in a bad condition and hardly able to crawl. They did accept her, but she died on the

third day. I then gave them 3 frames of fresh eggs from another colony with an imported queen, and in 8 days after, I received another imported one; and as this was late in the evening, I thought the best way to do would be to take away the frames of brood and introduce her to the same colony. I had forgotten that I put in 3 frames, and had the impression that it was only two, so I took but two away, and then besmeared the queen with honey and dropped her in. The next day being Sunday, I only looked about the entrance, to see if they had accepted her. I concluded they had, and was right. On Monday evening I opened the hive, and the first frame I lifted was the third one that I had forgotten, with 3 perfect cells on it. Just 10 days old. I saw at once that my own bungling carelessness had destroyed such a valuable queen;—(but wait for the exception). I removed 2 cells, and then was about to close up, leaving one cell to hatch, when the thought struck me that the queen might be there yet. So I commenced searching for her, and the third frame I lifted out, *lo, and behold*, she was *all right!* Was ever a man more glad? This queen proved very prolific, but for some cause was removed last week, by the bees, after being in the hive only 7 or 8 weeks.

TWO QUEENS IN A HIVE.

I sent off a fine queen some 3 weeks ago, and not wishing to get out of stock, left the hive to start cells; in just 3 days after, I examined to know what number of cells they had started. Could not find one. I thought perhaps they had forgotten it, but would remember when too late. So I gave them a frame of fresh eggs from another hive, and in 4 days after, lifting out that frame to count the cells, I saw a large and bright queen on it, already laying. Now, if this was not two queens in the hive, what was it? It was just 7 days from the day I shipped off one, and if the other was not in the hive, then how could she be laying so soon.

MITCHELL'S PATENTS.

An agent of N. C. Mitchell came to my apiary with 2 Adjustable hives for me to put bees in. After examining the hive, I told him I had been using that division-board since 1866, and a hive similar to that since 1872, and took him out in the bee-yard and showed him. There was not a particle of iron or lugs on his division-board, except the tacks to hold the strips of cloth to the edges or sides—no rubber strips. Just so of my division-boards. I used the strips torn off of cassimere, by tailors, so there was not a particle of difference between his division-boards and those I have used since 1866. His frame, if I recollect, was 12 inches square. Mine is 11x13, inside measure. My hives are 12 inches deep, 14 inches wide, and as long as suits my convenience; some 20 inches, some 24 and 36 inches.—Mitchell's honey-boards are cloth. I use both cloth and wood at certain seasons.—Cloth in winter, and wood in summer.

Now, I would ask this question: Does a man have a right to patent a hive that another has been using for years?

I also read Mitchell's instructions to bee-keepers, given to me by the agent. He gives instructions in it how to make the division-board, but not a word about the lugs or iron legs. He only names the strips of cloth, (not rubber), the same as I have used since 1866; and I venture the assertion that hundreds of others have done the same, long before Mitchell got his patent. But if he will confine himself to his patent, in connection with the metalic legs, all is right.

COMB FOUNDATION.

I have given it a fair trial, this year. It is a great advantage, though I find many objections to be remedied yet, I find it far better to only put in the comb foundation to come half or two-thirds the depth of the frame, for when it comes to within an inch of the bottom piece, they sag so as to become rumpled and fastened to each other at the bottom, and they cannot be got out without tearing away a good deal of brood at the bottom. The only remedy I find, is to put them only half or two-thirds, till we can invent a foundation that will not sag.—And to get them straight, there should be half an inch space from the end of the frame. I find them more apt to bend and fall out the frame than natural combs. I also find the bees lengthen out the comb at the middle and bottom before they do at the top when full sheets are given. I had a swarm the last of July to which I gave full sheets of foundation, and in a few days after, another very large swarm. This latter swarm I hived without a sheet of foundation. Now the first one is full of honey and comb, very strong; the latter has built 3 combs and has about a pound of honey. Had I given the latter swarm comb foundation, I believe they would be ready for winter by this time. I tried this for an experiment.

R. M. ARGO.

Lowell, Ky., Aug. 10, 1878.

For the American Bee Journal.

A Cheap Wax Extractor.

Necessity is said to be the mother of invention, and finding the necessity of having some means of extracting the wax from a quantity of comb on hand, I devised a plan which I find so satisfactory to myself that I desire to place it before the readers of the BEE JOURNAL.

Take an old, milk pan, too far gone for any further use in the dairy, and if the bottom is considerably rounded down or concave, so much the better. Punch a hole in the centre of the bottom, about one-half inch in diameter; and after placing a fragment of china, or small piece of bent tin over the hole, to prevent its being clogged by the comb falling into it, fill it with comb and set on the grate in the oven of the kitchen stove. Under the pan, on the bottom of the oven, set another pan, to receive the wax. Be careful to have only a moderate fire, or the wax will be scorched.

When the wax ceases to run, remove the pan and refill it.

WARREN PIERCE.

Garrettsville, O., Aug. 19, 1878.

For the American Bee Journal.

Honey Dew.

If the article in the August number, on "What is Honey Dew?" did not contain some antiquated ideas, it would not be worth while to shed light on it. The general point sought to be made is, that all honey dew is excreted by the plants, and that the cause is a "chemical derangement," which causes them to relieve themselves, by excretion, through organs similar to those of animals. It also maintains that all the elements of sugar are taken in through the leaves.

The investigations of the last 20 years have, beyond all doubt, shown that the body of plants consists of nothing but living, or living and dead cells, according to what the plants are. These cells are very small, from 1-200 part of an inch to 1-1000 in diameter. Some few may attain a size of 1-10 of an inch. These cells are entirely closed, and join each other. They are the only organs by which plants can take in watery substances, and they do it by inhaling and exhaling, or "endosmose and exosmose;" on the same principle, as two different fluids related to each othes, if separated by a bladder, will penetrate the bladder until they are equalized. Hang a bladder with salt or sugar water into clean water, and you will soon find the outside as salty or sweet as the inside.

The flow of sap is nothing more than the mechanical effort of the evaporation of water from the leaves and younger stems.—The contents of the water cells becoming thereby more concentrated, the power of "endosmose" becomes so much stronger.—It is also settled that plants cannot take in any matter which is not soluble in water, and that very near all the water a plant uses is drawn up by the roots. This water contains in solution, salts, acids, minerals and more or less carbonic acid, hydrogin and oxygin. The upper side of leaves have not yet shown any opening through which any fluid could exude, and I defy any one to show it. The under side of leaves is generally provided with small crated openings, which lead into the spiral vessels, whose functions are the inhalation and exhalation of gases, which is far more active in day than in night time. At night, plants, so to say, sleep, and yet, at night, should they be so pressed by sugar as to burst the hard, upper surface of the leaves, to gain an outlet? On the other hand, the plant lice work principally at night.

The writer of the article in the *Home Journal* really supposes that our large forests of oak, hickory and other trees, are chemically deranged, when honey dew disappears. It would, in such a night, when the trees are in their best, be dangerous to the ears, to enter such a forest; one might come out deaf! No; Mr. K.: Honey dew is not excreted by leaves; it is, all of it, simply sucked by plant lice, who use of it what they need, which is not the sugar, and eject the surplus not by the anus, but by two fine openings above it.

I can show you, almost any time, how these little tiny insects work, and can show you, beyond the possibility of a doubt, how they eject the honey dew. I can believe what my eyes see. CHAS. SONNE.

Sigel, Ill., Aug. 16, 1878.

Central Ky. Blue Grass Convention.

The annual meeting of this Association will take place in this city, Tuesday, the 1st of October next, at 10 o'clock, a. m., when it is expected that important business will be transacted. There will be an election of officers for the ensuing year.

We hope the Editor of the JOURNAL will be with us in body as well as in spirit. If the former should fail, we shall be content with one of his interesting articles on "Bee-keeping, a Science." We cordially invite all lovers of bee-culture to be with us, and especially all the members of the Association, as we hope some prominent member will volunteer to represent us in the National Convention, which meets in New York City (I think) one week after ours.

W. WILLIAMSON, *Sec'y.*

Lexington, Ky., Aug. 7, 1878.

[Would be pleased to attend, were it possible for us to be absent long enough to attend both conventions—but it is not.—ED]

North-Eastern Wisconsin Convention.

The Northeastern Wisconsin Bee-Keepers' Association will meet at Depere, Brown Co., on Tuesday and Wednesday, September 3d and 4th.

Interesting articles from prominent beebeepers will be read, among which may be mentioned, "The management of the home market for honey, both comb and extracted," by H. P. Sayles, of Hartford; "Wintering bees, and carrying them safely through the Spring in this Northern climate," by James Heddon, of Dowagiac, Mich.; "Best method and time of increase," by Crowfoot Bros., Hartford; "Best management of bees for the production of comb honey," by Fred. Claussen, of Mishicott.

Legare Potter, of Sherwood, and Edwin Pike, of Boscobel, will also read articles, and we hope for one from A. H. Hart, of Appleton.

Blanks will be on hand for filling out, whereby we may get an accurate statement of the number and amount of bees, honey, etc., in the state, and prices settled accordingly.

A cordial invitation is given to all to come and bring anything new of interest to the fraternity. FRANCES DUNHAM. *Sec.*

OINTMENT.—"I will give you a receipt that I have been in the habit of using for years, viz: Good yellow beeswax or nice, white comb, one part; fresh butter, well washed, 4 parts. Melt, skim and pour in moulds, which makes it handy for toilet purposes, or in boxes. It is excellent for any dressing where ordinary ointment is used. Have had some bad ulcers healed by its use; but, for the hands and lips, it is not surpassed." DR. J. R. PRATT.

Our Letter Box.

Roseville, Ill., July 30, 1878.

"We would like to hear how bee-keepers manage their work who have several apiaries to care for. We have 85 colonies 5½ miles from home and send a hand over daily to care for them during swarming time. Wish we could hear from several who make $1 queen-rearing a success; just how often they give comb, brood, &c., &c., as it seems to me honey pays me better than queen-rearing, unless I can find a labor-saving way of doing the work." L. C. AXTELL.

Collins, Ill., Aug. 1, 1878.

"When is the best time to transfer bees from box hives to obtain the most honey and give the bees time to procure sufficient supplies for wintering?"

M. A. NEWMAN.

[The best time is early in the season when there is but little honey in the hives. It may be done on any warm day when the bees are actively engaged in storing, before the fall honey harvest.—ED.]

Hastings, Minn., Aug. 8, 1878.

"Bees have done very poorly for the last 3 weeks, but we are looking for a big yield of honey yet this fall. Last season I had colonies that made 75 pounds of surplus honey after July 20. The flowers on our bottom lanes are just beginning to bloom. Last year they were 2 weeks earlier; they usually produce a large amount of honey. Should they fail this year, the honey crop in this part of the State will be short.

WM. DYER.

Knoxville, Iowa, Aug. 3, 1878.

"Enclosed I send you stem and flower of a plant that abounds here. Bees work on it from morning till night, not only on the flowers, but on the leaves and stem. What is it? Bees have done very well, so far, this season. They are quiet now. The fall harvest promises to be good."

A. M. CROSBY.

[This is *Cassia Chamœrista*, or partridge pea. This is a leguminous plant, and a near relative of the Judas tree, or redbud; but it is an annual. It is certainly a beautiful plant.—A. J. COOK.]

Pike Co., Ky., July 28, 1878.

"Bees have swarmed but very little here this summer. A great many about here have their bees in log gums, and very few frame hives are used. I have 35 colonies in frame hives, made large with 4 honey boxes on each, holding 16 lbs. They have all been well filled, making 64 lbs. of box honey to the colony. I take only box honey from my bees. Wintered out doors last winter without the loss of one colony. My hives have an entrance at each end with slides to shut out the cold, and making it warm enough for them in the spring. I raise one of my slides for the bees to go to work; when it gets warm enough I raise both slides. It seems to give the little fellows much comfort for the air to circulate through. We hive when it is very warm, and when they are crowded with bees. I made 10 swarms, all of which did well; nearly all filled their boxes and have plenty to last them through the winter. They are now idle for the first time this season. The poplar bloom this year has been good. Honey dew has been plenty. We have had no linn bloom this year, but every other bloom has been good. My bees are all blacks. I have them scattered about over my orchard, so I have no trouble making my swarms.

JULIUS C. WILLIAMSON.

Reynoldsburg, O., Aug. 6, 1878.

"I am well pleased with the BEE JOURNAL. I don't see how any one can do without it that intends to handle bees; it is the best I ever read, and I have read several. I have 25 colonies of bees in the N. C. Mitchell hive, all doing well. I am using the Bingham smoker; have sold several of them; all give good satisfaction.

Bees swarmed here late on account of the cold weather in May, but did well through June and July. I have swarms that came the 15th to 20th of June that has made 20 to 25 pounds of surplus honey. Is it best to put bees in the cellar or leave them on the summer stands? S. M. OLDHAM.

[The cellar is best for a northern climate; but some winter with success on their summer stands. If the latter, they should be prepared by being packed in straw, and provided with a plenty of honey to winter through in safety.—ED.]

Nashua, Iowa, Aug. 14, 1878.

"This has been the poorest honey season I have ever yet known, and I have been in the business 10 years. There is the greatest demand for honey in fancy shape this season I ever knew. I cannot begin to fill the orders for honey at 20 cts. per lb. in my new 1¾ lb. sections. Will send you one of my crates with 12 of my boxes filled with honey after the fairs are over. Melilot clover is a No. 1 honey plant. I have had some experience with it this season; will sow about 10 acres more."

E. J. SCHOFIELD.

Glen Rock, Pa., Aug. 2, 1878.

"The JOURNAL and honey pamphlet came to hand in due time; I am much pleased with both. Please give the following strange freak of a virgin Italian queen to the readers of your good JOURNAL. On the 25th of July the queen left to meet the drone, no eggs or larva being in the hive, the workers followed her. After flying for some time they clustered. I put them back in the hive, thinking they would stay, but they immediately went straight to the woods, and I gave myself no further trouble. On the 29th my queen with their little band of workers came home. They came the same course that they took when they left, four days before. It must have been my queen for there are none raised except one place 6 miles in the opposite direction my

queen took going and coming. On their return they clustered again, and I put them back, giving them some brood. They have given me no trouble since. I have now introduced the queen into a full colony, and await further developments. Has any one seen the like before? J. H. BUPP.

[It is not strange that the bees should go with the queen on her bridal excursion, when they have no brood left in the hive.—They often do it. The only thing strange is her return after so many days. Still, this sometimes occurs. Mr. L. Chandler reported such a case only a few weeks ago. Others have reported the same thing.—ED.]

Palestine, Ind., Aug. 5, 1878.

"FRIEND NEWMAN:—While reading the August number of the JOURNAL I saw an article headed 'A Young Man's Experience,' and I began to think he commenced in a way similar to that I did. In 1873 I purchased 'Quinby's Mysteries of Bee-Keeping,' and this I read and re-read until I had almost committed it to memory. I now had a good book but had no bees to practice what I had learned. I finally purchased a colony in an old box hive, and being late in the spring I did not transfer them that season. The next year in June I divided them, and I then had two colonies—one in a Quinby and the other in a box hive. In the fall I found a 'bee-tree,' which I cut and saved. While this was going on, I was looking in every paper I saw, for an advertisement of some bee-paper. At last I found one; it read like this: '*National Agriculturist and Bee Journal*, 3 months for 10 cts.' I immediately sent the amount, and received three numbers of the paper. In this I saw the '*Bee-Keepers Magazine*' advertised, and immediately sent for it one year. In the *Magazine* I saw the AMERICAN BEE JOURNAL advertised, and sent for it one year, and can truly say it is the best bee-paper I have taken.

I now have 34 colonies of bees, all in movable frame hives—some in the Langstroth, and some in the Improved American. I intend to use all Langstroth hives next season. I intend to go to the 'Exposition' at Chicago this fall, and will visit your 'Museum.'

This has been an average season here for bees; linn lasted but a few days. We never get much honey from linn on account of wet weather. Success to the JOURNAL.

M. E. LOEHR.

Lincoln Apiary, Mich., Aug. 11, 1878.

"I have been a bee-keeper for 25 years. Bees have done well here until this season; spring opened a month earlier than usual; bees wintered well; March and April was fine; bees were raising brood fast until the first of May, when it set in cold and rainy. About the middle of the month we had several hard frosts which injured the red raspberry very much and killed the basswood blossoms entirely. The first swarm I had was Jan. 28, and they are swarming yet; I had a large swarm yesterday; they are making honey now faster than they have before this season. I hardly know what to do with the swarms that come out now. I would cut out the queen cells but they are crowded from top to bottom with bees. I never saw so many bees and brood in the comb; they are full, outside cards and all. I have not taken any surplus honey yet, although I could from some of them. I think I shall give it to the late swarms. Bees generally do well here all through this month and until the middle of September.

Well, I have just been out looking at the bees. It is about 9 o'clock in the morning, and I never saw bees working stronger than they are this morning, and have been for the last 2 weeks. They are at work on buckwheat and fire-weed, and another weed that I do not know the name of. It grows about 4 feet high and has a pink blossom. It blossoms up and down the stalk for 2 feet; when ripe it has a pod which is full of cotton. I would like to know the name of it. Bees make honey fast from it. I send you a sample of it that I may learn what it is.

We have a great many honey plants here. The red raspberry is abundant; blackberry, basswood, &c. The great trouble is in wintering. Last winter was an open winter, but generally we have steady cold weather and deep snow. I wintered successfully last year, and a year ago last spring I had 25 colonies, some of them weak. They swarmed too much in the fall; I had 75 colonies. I got 700 pounds of extracted honey and 400 pounds of comb or box honey. I had no extractor of my own; I borrowed one and took this amount from them at one time. One man in the next town from me extracted 1,200 pounds from 35 colonies. He started in the spring with 12 colonies. That is what bees will do here if well managed. L. REED.

[The plant sent us was *Epilobium angustifolium*, or the willow herb. To receive 700 pounds of extracted honey, and use a borrowed extractor seems to us rather peculiar, unless you divided the proceeds with your neighbor.—ED.]

Chicago, Aug. 5, 1878.

"Last spring Messrs. Thomas G. Newman & Son, very generously made me a present of a nucleus colony of Italian bees, and very thoughtfully ordered them from the Rev. A. Salisbury. In due time they came to hand, were transferred to a North Star Hive, and upon the arrival of fair weather and floral facilities, entered upon their career as a colonized community; and although I had charge of the apiary connected with the AMERICAN BEE JOURNAL, I removed these to my residence for experiments, to determine possibilities as well as settle probabilities. They were placed in my back door-yard, close to the walk traversed perhaps a hundred times a day. The queen was so handsome and prolific, the bees so large and beautiful, and their dispositions so amiable and industrious, that our bees in the back yard soon became to be recognized as much our pets as those which were in the house. From the one small frame and its few bees, and the large queen, we have already 2 North Star Hives, with their 10 frames each, full of large, bright, triple banded bees, and 1 frame of eggs, larvæ and

brood in a nucleus, from which to raise a queen for a colony received from Michigan, besides having strengthened said colony with 2 large fully-packed frames of capped brood. Almost 2½ colonies of bees from 1 small frame and 1 monstrous queen! Is it any subject of wonder that the young folks of the neighbors have engendered the superstition that we have a new kind of bees that cannot sting;—from seeing us bare-headed, sleeves rolled up, females and all, grouped around our hives, lifting out frame after frame, while the bees in clouds sported around us on the wing? Never but one of my family stung by them, and that my youngest, who, inadvertantly, placed his hand upon one alighted on the plank walk, and who, instead of blaming the bee, commiserated having hurt it. Mr. Chandler, an old bee-man, said, were the queen his, $50 would not buy her. I have handled many imported queens this season, and many fine ones held at fancy figures, but none for which I would exchange her." C. C. C.

Detroit, Mich., Aug. 15, 1878.

FRIEND NEWMAN:—My nephew, Chas. Benton, Hubbardston, Mich., writes that the comb foundation you sent him arrived all right, and is very satisfactory. He says, "It would pay to buy a car-load." The smoker and comb foundation sent here arrived very promptly." FRANK BENTON.

[Comb foundation is a grand success, and will soon be universally used.—ED.]

Valley Mills, Texas, Aug. 8, 1878.

"I have been taking the AMERICAN BEE JOURNAL for several years. Can't well do without it. I have handled bees for 40 years in the old fashioned way, but I am now going to turn a new leaf in that line.—Bees in this vicinity wintered well, but have no surplus, as yet, and I fear will not have this season. This has been, so far, the poorest honey season I ever saw in any country. It makes me wish that I was able to get and try the Italians, and see if they could find honey to *spare* in extreme wet and dry weather." A. M. BARNETT.

Boundary City, Ind., Aug. 17, 1878.

"I do not see how any one can do without the BEE JOURNAL and be successful with bee-culture. I have 17 colonies now; commenced in the spring with 8; all Italians.—In June and July they did well. I had one colony on the scales in June; the most honey gathered in one day was 5 lbs.—the least, 2 lbs. During June they gathered 105 lbs." D. K. KNOLL.

Charles City, Iowa, Aug. 21, 1878.

"I have some things to suggest to accompany that queen stand, illustrated in the last JOURNAL; one is, a leather sheath on one end, to carry honey knife in; another is, a place to slip some turkey quills in, and another, a little tin box or pocket on one end, to carry some cotton filling or rags in, to use for smoking the bees; still another, a little post put on one end a little higher, with a hook or pin to hang a smoker on.—Bees have done very little making surplus honey here, this season. Not more than half of the basswood trees budded this year, and these buds were blighted and dropped off the first thing, which was about July 12th. I have made 22 new colonies from 40 in the spring. Those that did not swarm in June, got some honey. My best hive for box honey gave only 40 lbs." L. SUTLIFF.

Sumner, Ill., Aug. 21, 1878.

"Is there a strain of pure Italian bees without the yellow bands? Some here assert that there is." W. EMERICK.

[The three golden bands form the badge of purity of Italian bees. German or black bees are found in Italy, but to call them Italians would be about like calling a cat that happened to be born and reared in a stable, a horse! The German or black bee is a distinct variety, and is found in almost every civilized country. While the Ligurian or Italian bee is a native of a province of northern Italy, south of the Alps. These monntains kept them for ages a distinct variety from the German bee. They were afterwards developed in "sunny Italy" to the variety now known as Italians.—ED.]

Paoli, Ind., July 24, 1878.

"I wish some reader of the AMERICAN BEE JOURNAL who has tried the Alsike clover as food for stock would state if it is as good as the red clover. I have a lot that I wish to sow in clover, and if the Alsike is good for food I will sow it, as it will help my bees along too.

"The honey crop in May and June was splendid, but I don't think the bees have made a living since June." B. M. LINGLE.

[Will some one who has had experience with alsike and red clovers please give their relative merits for fodder?—ED.]

Connersville, Ind., July 29, 1878.

"I began this spring with 7 colonies in Langstroth hives, and am delighted. I have increased to 11 by natural swarming. I have colonies that made 75 lbs. of comb honey each during June. I like the Langstroth hive. I think the JOURNAL 'THE BOSS;' It is the first paper I read." J. H. RILEY.

Point Coupee, La.

1. What is the best remedy for the disease known as foul brood? 2. How do you wax the inside of barrels to contain honey? 3. How late in the season is it safe to extract honey in this latitude? "CREOLE."

[1. For answer to this question, see July No., pages 212 & 241. 2. See July, page 233. 3. You can extract with safety at any time, if the hive is too full of honey to allow the queen room to lay her eggs. "Time" cuts no figure in the calculation—the condition of the colony is the only safe guide.—Late in the fall, if the colony has more than 30 lbs. of honey, it will be safe to extract it, as that it sufficient for wintering.—ED.]

Business Matters.

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We send the JOURNAL until an order for discontinuance is received and all arrearages are paid.

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In consequence of the dearth of small currency in the country, we will receive either one, two or three cent stamps, for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

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Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us three subscribers to THE AMERICAN BEE JOURNAL with $6.00. Premium Queens will in every case be tested, but not sent till after July 1st.

Write name and post-office address plainly. If there is no express office at your post-office address, be sure to give your nearest express office when ordering anything by express. Give plain directions how goods are to be sent.

Seeds or samples of merchandise can be mailed for one cent per ounce, Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arragements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order,** for all Apiarian Supplies.

☞For *nice* Comb Honey, in Prize Boxes, we pay the highest market prices.

CHOICE ITALIAN BEES.—We have a few colonies of choice Italians for sale at $10.00 each. To be delivered in October.

☞Instead of Queens from Tremontani, we can only get promises. We sent him the money by draft on Paris more than 4 months ago.

☞Sutliff's Smoker has been improved by the addition of a valve, which opens of itself when it is thrown down, and is always closed when being used. [Friend Sutliff says some have an idea that it requires both hands to operate it, and wants us to correct it. It is intended to be operated with the left hand, but it will take some practice to be able to use it with ease.

BEE-CULTURE; or Successful Management of the Apiary, by Thomas G. Newman, editor of the AMERICAN BEE JOURNAL.

This is the title of a new pamphlet of 80 pages, which has been carefully prepared for beginners who desire a cheap work, but one up with the times, to familiarize themselves with the fascinating avocation of the management and care of bees.

It is published both in the English and German languages, and is beautifully illustrated. It is cheap, the price being only 40 cents for it, in either English or German.

It embraces every subject that will interest the beginner. Commencing with a short chapter on the Natural History of the Honey Bee, it passes to the consideration of the Situation, Stocking and Arrangement of the Apiary, giving minute details of the management and manipulations necessary to make Bee-Keeping a success. It describes all the newest discoveries in the art, by which the production of delicious and health-giving Honey is obtained, as well as how to prepare it for the market in the most attractive shape.

Convention at New Boston, Ill.

The Western Illinois and Eastern Iowa Bee-Keepers' Society, will meet at New Boston, Mercer Co., Ill., Wednesday and Thursday, October 2d and 3d, 1878. All are cordially invited to attend our Convention, and bring anything that will be of interest to bee-keepers, such as hives, extractors, smokers, boxes, honey-knives, bee-veils, honey, tools, etc. What may seem OLD to you may be NEW and of interest to others. Reduced rates will be given at hotels. The meeting will commence at 10 o'clock a. m. Several valuable prizes will be given away to *members present.* ☞Membership fee, 50 cents; Ladies free.

D. D. PALMER, *Pres't,*
New Boston, Mercer Co., Ill.
WILL M. KELLOGG, *Sec'y,*
Oneida, Knox Co., Ill., and Oquawka, Ill.

THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

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Contents of this Number.

EDITOR'S TABLE:

Editorial Items.....327 to 337
Lessons from the Statistical Table..... 328
What Shall the Harvest be?..... 328
Penny Packages..... 328
Sundry Questions and Answers..... 329
To Strangers Visiting the City..... 329
The "Old Reliable" abroad..... 330
Cans for Honey..... 330
Shuck's Bee Feeder..... 331
Stings..... 331
Armstrong's Centennial Hive..... 332
Postal Absurdities..... 332
Hill's Wax Extractor..... 333
The Langstroth Hive..... 333
Lady Bee-Keepers..... 334
The Best is Always Demanded..... 334
Wonderful Exhibition..... 335
That Floating Apiary..... 335
Block for Frame Making..... 336
California Honey Product..... 336

FOREIGN NOTES:

Britain's Bee Show and Convention.....337 to 339
Battle between Bees and Geese..... 339
German Bee-Keepers' Convention..... 340

CONVENTIONS:

Kansas State Convention..... 340
Lancaster County (Pa.) Convention..... 341
Reports..... 341
Do Bees select a place for their Hive prior to swarming..... 342
Is Honey found as a Natural Product by the Bees, or do they Manufacture it?..... 342
Can a Locality be Overstocked by Bees?.... 342
The Best Remedy for Bee Stings..... 342
The Best Way to Get Bees out of a Honey Box..... 343
Which is Best, Natural Swarming or Artificial Division of the Colony?..... 343
Preparing Colonies for Winter..... 345

CORRESPONDENCE:

Another Bee Enemy..... 343
What is it?..... 343
Bibliography..... 343
Description..... 344
Habits..... 344
Verdict..... 345
The Standard of Purity..... 345
A City Besieged by Bees..... 346
Establishing the Purity of Italians..... 347
Chaff from Sweet Home..... 347
Italian vs. Black Bees..... 348
Improved Swarm Catcher..... 348
Will Queens Duplicate Themselves?..... 348
Alley to the Front..... 348
Standard of Purity..... 348
Test of Purity..... 349
Color of Queens..... 349
Impossible..... 349
Report from Doolittle's Apiary..... 349
Standard of Purity..... 350
Apiaries in Henry County, Ohio..... 350
Chips from Sweet Home..... 351
Adulteration of Sweets..... 352
Why is It?..... 353
A Curious Incident..... 353
Wire for Foundation, Extractor, &c..... 353
Does Pure Honey always Candy?..... 354
Honey, &c., at the Tri-State Fair..... 354
Bees Kill a Horse..... 354
What shall the Decision be?..... 354
Statistical Table—Fall of 1878.....355 to 357

OUR LETTER BOX:

Sundry Letters.....358 to 362

Editor's Table.

☞ Salicylic acid is said to prevent honey fermenting when used in the proportion of one-fourth of an ounce of the acid to 30 pounds of honey.

☞ All that is necessary to create a demand for honey is to place information before the people. Get some pamphlets, "Honey as Food and Medicine," and scatter them among your friends, and a demand will, no doubt, spring up that will take all your surplus honey to satisfy. Try it and see.

☞Friend Ira Wilson, of Lodi, N. Y., says that Mr. Miller, in that vicinity, has patented the Quinby hive, and asks if he can collect a royalty of those who have been using it for years. The Quinby has been before the public too long to be patented at this date. Friend Wilson need not hesitate to make and use them, if he desires.

☞ In shipping honey, be sure to turn the top bar downwards; this will often save it from being broken down and leaky. Many boxes or sections are not built quite down to the bottom bar. In transit these will be almost sure to break down if shipped the same way up as when standing on the hive.

Lessons from the Statistical Table.

Two hundred persons reported having 8,200 colonies last fall, sustaining a loss in wintering of one-fourteenth, or 649 in all. The increase on these have been 66 per cent., making a total this fall of 12,474 colonies—an average of 63 to each person.

Five-elevenths were wintered on the summer stands (3446), but only one-third of these were packed in chaff (1273). The winter was an open one and wintering on the summer stands was preferable.

Now as to the results: there were 150,000 pounds of comb honey produced, to 238,000 pounds of extracted—⅝ of comb to ⅝ of extracted—by the 12,000 colonies reported. This gives an average of only 32 pounds per colony, showing it to have been on the whole an exceedingly poor year. The cold, damp spring, with other detrimental periods, cutting off much of the honey gathering.

The wax secured being only a quarter of a pound to each colony. It seems to us that Thurber & Co. will have a poor show to get the ten tons per month to supply that Candle house in Europe.

☞ Last month we suggested that the National Society should be requested to offer medals as prizes to be awarded in its name, at the honey and bee shows of the different State and district Associations within its limits. We requested bee-keepers to send us their opinion of the suggestion. The reponses have been universally in favor of it, and we have no doubt but that the National Society will give the subject their best attention.

PENNY PACKAGES.— We have received a case of six of J. H. Martin's new boxes for putting up pure candied honey for the children. They hold 4 ounces of honey and sell for 10 cents each. The box is made of hard wood, coated inside with paraffine; a label with cut of a queen bee is on the cover, and a stinger which is suddenly thrust against the finger if you persist in fooling with the tail which projects from the side of the box. After the stinger is sprung it can be reset by pushing in with the thumb nail, and used again. Those who want to create a market for their candied honey should send to Mr. Martin for his circular and get some boxes, and see what can be done in that direction.

What shall the Harvest be?

Saugatuck, Mich., Sept. 18, 1878.

FRIEND NEWMAN:—Now that the fall crop of honey has been gathered, and bee-keepers are contemplating how best to dispose of their honey, would it not be well for you to give us in your October issue, in as concise form as possible, the outlook for the honey market, especially in Chicago? What may we expect from California? How will their crop affect us? And as nearly as data will allow, let us know how the crop is in each of the principal honey-producing States, and how prices will range. In this immediate vicinity white honey is very light, but during the first week of this month bees did "immense" on golden rod.

WALTER B. HOUSE.

The honey market in Chicago is good. Prices are ruling lower than formerly, but the demand is increasing steadily. Light honey, in neat single-comb packages, will sell readily. The producer finds ready sale for all that is put up attractively. As the cold weather approaches, extracted honey will be more in demand.

All the good honey produced this year can be sold readily; that of poor quality only will drag. California will help us out a little but her crop is mostly "extracted." Manufacturers are using the extracted more than ever, and we think the "show" for it is excellent. As to prices, the curious can compare them by the aid of the Honey Market in another column.

☞ Friend W. H. Ware, Bayou Goula, La., suggests, that the next meeting of the National Society, shall be in the West, and the following one in the South, either in July or Dec. and adds:

"I am sure that such a plan would meet with substantial approval and support from our bee-keepers in the south, and would do more than anything else, to encourage and develop the bee-keeping interests throughout the whole country. I think well of your suggestions, that the National Society inaugurate an exhibition of manipulations with bees, as well as of apiarian supplies, and honey. Now, in case this plan should be adopted, and a meeting held in New Orleans, I will donate say, 6 colonies of pure Italian bees to be used on the occasion, and then to be sold to the highest bidder, for the benefit of the society."

Sundry Questions and Answers.

Sedan, Kansas, Aug. 24, 1878.

Will a nucleus colony grow into a full one the first season, under favorable circumstances?

What course should I pursue to secure the greatest number of good, strong colonies from one, in a single season?

RICHARD S. TURNER.

[Yes; a nucleus colony will grow into a good strong colony, under even ordinary circumstances.

To secure the greatest increase, practice division of the colony, according to directions given in a good manual. We have too often described the manner of doing it to warrant our taking up space of the JOURNAL for a repetition.—ED.]

Council Grove, Kan., Sept. 16., 1878.

I enclose a flower for name. It equally shares the attention of the bees with golden rod, and blooms profusely.

D. P. NORTON.

[This is a species of *Eupatorium*, or Boneset. It is illustrated in the Manual, page 241.—A. J. COOK.]

Mineral Point, Mo., Sept. 7, 1678.

Please find a flower that bees work on and is very abundant here in uncultivated fields. Please give the name in the next issue of the JOURNAL, and say if it is a good honey plant.

E. B. DAY.

[This is a Eupartorium or boneset. It is figured in Manual page 241. All of the Eupatoriums are excelient honey plants.—A. J. COOK.]

Please name this flower.,

M. H. MILSTER.

[Eupatorium or boneset, figured in Manual, page 241.—A. J. COOK.]

Ligonier, Pa., Aug. 16, 1878.

Enclosed please find an insect, found on a cucumber tree that stands in a field. The bees are on the tree from morning till dark, and you can see a mist falling from it. The leaves are covered with a sweet substance like honey-dew. I send it to you to name.

WM. ASHCOM.

[The insects are the same as described in September AMERICAN BEE JOURNAL, page 308, or Lecanium tulipiferæ. It is not strange that they should also infest the cucumber tree (magnolia acuminata), as it belongs to the same family (magnolia) as does the tulip tree, Liriodendron tulipifera.—A. J. COOK.]

St. Mary's, Ind., Sept. 7, 1878.

I enclose a small branch or two of a weed that grows very extensively here. It is considered one of the greatest pests as a weed. It is a perennial, and takes possesion of ground very rapidly. I find the bees working very extensively on it to day, for the first time in my life. Please give the name and its uses, if any.

Long live the AMERICAN BEE JOURNAL and its Editors, with the addition of health and prosperity.

THOMAS J. WARD, J. P.

[This is a Solidago or golden rod. I cannot give the species without more of the stem, but I presume it is the very one figured on page 243 of Manual.—A. J. COOK.]

☞ Much of the Honey this season is very *thin* and watery, and needs a good deal of ripening to make it fit for market. If not ripened, much of it may spoil in the fall.

TO STRANGERS VISITING THE CITY.—The *Madison street Cars* pass our office every minute of the day. We will always be glad to see you, and if you are interested in bees or honey, you will neither regret the journey nor time occupied in looking over our Museum.

FRIEND NEWMAN: Our little "Chip"—whose advent you put in A. B. J.—passed to the other life last night.

D. D. PALMER.

New Boston, Ill., Sept. 16, 1878.

"We deeply sympathize with friend Palmer—surely all "chips" do fly away. May this one "rest in peace" on "the evergreen shore."—ED.]

☞ So far, no one has dared to take up the gauntlet thrown down by friend Moon, in the last JOURNAL, about queens duplicating themselves.

The "Old Reliable" abroad.

The following letter speaks for itself:

New York, Aug. 9, 1878.

"An order for Honey from Algiers, in French Africa, is just received, and the letter says that our address was obtained from THE AMERICAN BEE JOURNAL. H. K. & F. B. THURBER & CO.

It is with much satisfaction that we point to our extensive and wide-spread circulation, as an evidence of the fact that the *old* AMERICAN BEE JOURNAL has lost none of the prestige or influence created for it by its late lamented editor and publisher, Mr. Samuel Wagner.

Not only is the BEE JOURNAL a welcome visitor at thousands of homes, embracing every State and Territory of the United States, but also in the Canadas and States of the South American Continent! It leaps the bounds of the Oceans, making regular visits to England, Scotland, Wales, Germany, France, Austria, Italy, Belguim and other European countries. It meets a hearty welcome in Africa, as may be seen by the above letter. Flying past the great African desert, and the glories of Ancient Egypt with its interesting Pyramids, and Palestine with its many sacred places—beyond the Indian Ocean it plants a "Star of Progress" in that vast continent of Australia—and then, pointing to the refulgent light of science enveloping with a halo of glory, that insect whose fame reaches back to the natal-day of our planet, as well as pointing forward to the glory of the enlightened "world of the future"—it bounds back to

"The land of the free, and the home of the brave."

—rejoicing in the fact that its patrons and friends encircle a world,—while "the Sun never sets" on the lands embraced in its sway—

"Visiting the shores, one by one—
Nearly all beneath the Sun."

It is exceedingly gratifying to remark that the depression, which has been so wide-spread, has not materially hindered its steady, onward course. From year to year it has enlarged its size, improved its matter and gained many new friends. All this is the result of energy and determination. For when others fainted by the way it has made fresh efforts and branched out—ever keeping in view its one grand object—that of furthering the interests of honey-producers by losing no opportunity offered to create a demand for this God-given sweetness, opening up new avenues for its use, and thus benefiting its patrons.

Another departure may now be announced. On and after the beginning of next year the price of the JOURNAL will be $1.50 per year, instead of $2.00 as heretofore. Clubs of five will be sent for $5.00, cash in advance. Subscriptions will be received at once at the new price for next year.

Cans for Honey.

Lake Village, Ark., Aug. 26, 1878.

MR. EDITOR:—Please inform myself and others through the A. B. J. what would be the cost, in Chicago, of packages for honey, holding respectively: 5 lbs., 10 lbs., 25 lbs. and 50 lbs; such packages as were exhibited at the Los Angeles convention, May, 1878.

J. B. TALLMAN.

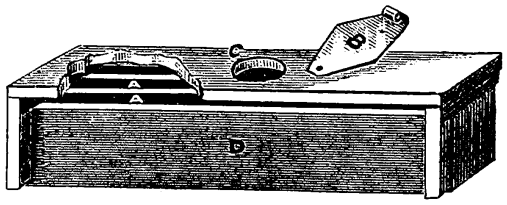
Such packages, in this city, would cost about as follows: to hold 5 lbs., round, 15c.; 10 lbs,, round, 20c.; 25 lbs., square, with screw top, 40c.; 50 lbs., 60c.; and 100 lbs., $1.00.

☞ A few days ago, one of our callers assured us that he had a neighbor who invariably closed up all the entrances of his hives every Saturday night, and kept them closed till Sunday night, to prevent his bees from "working" on Sunday!! To be consistent, he should remain in the house all day Sunday, and *fast*, else some one will have to *work* to get his food and keep him warm in winter! Surely, "superstition" and "cruelty" go hand in hand!

☞ The drawings of the Bee Enemy, —*Phymata Erosa*—on page 343, were made by Mr. Sherman Upton, of the Sophomore Class at the Michigan Agricultural College. The engraving by Baker & Co., of this city.

Shuck's Bee Feeder.

This is a convenient arrangement for feeding bees at the entrance of the hive, and is shown accurately by the accompanying engraving. The feeder is placed on the alighting-board, with the side (D) nearly covering the entrance. In the engraving, the top is cut away to show



the wood divisions (A A) in the feed-cup; the food is poured into it, without removing, through the hole (C), which is covered with wire-cloth below, to keep the bees from annoying the person pouring in the feed. When this is done, the small cap (B) is closed over it, making all tight and secure. It can be used on any hive, and for outside feeding we think it has no superior. The food can be reached only by the bees from within, and, consequently, there is no danger of robbing from its use. It can be obtained at this office.

STINGS.—Russell Bliss, of Earlville, Ill., inquires the best means of preventing or curing bee-stings. The best means of preventing bee-stings, is to keep out of the way of the bees. The best means of curing them, is to immediately take a fresh tomato leaf, crush it, and rub upon the part stung. The pain will disappear immediately and without the slightest trace of swelling. This is an infallible cure—insuring perfect "Bliss!"

☞ The busy season will soon be over, and friend G. M. Doolittle informs us that he will, in October, resume his valued correspondence to the AMERICAN BEE JOURNAL. An article from him may be expected in every issue during the winter, for he intends to give the JOURNAL his exclusive attention hereafter.

☞ Let all who can, attend the Convention at New Boston, Oct. 2 and 3. See full notice in BEE JOURNAL for Sept. Mr. O. Clute, of Keokuk, an accomplished scholar and fluent speaker will be present and favor the Convention and citizens of New Boston with a very interesting Lecture on "Honey." This will be a treat, and should call out a large attandance. We regret not being able to be present.

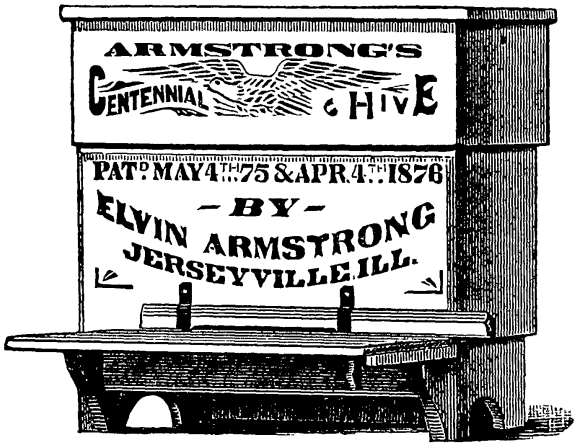
☞ H. Scovell, Columbus, Kansas, has sent us a drawing of a new Smoker that he is experimenting with. He has made a model, which he says works like a charm. The fire box is enclosed in a larger tube with air space between to keep it cool enough to handle. This is held in place by springs. As the heat will soon destroy these, some other device will be necessary. It is fed entirely at the large end of the tube. If he finds it a success, our readers will no doubt be treated to a "picture" of it, though its form will be similar to other Smokers.

☞ We have received two samples of the new style comb foundation, one from Mr. O. J. Hetherington, and one from Mr. J. H. Nellis. It is in appearance, simply "immense,"— the most beautiful thing we ever saw. Have placed some of it in our hives, and have no doubt it will completely revolutionize comb foundation ideas. It has a perfectly plain base, with side-walls formed. That intended for the brood-nest has wires in it to prevent sagging, and that for use in surplus honey is perfectly thin and transparent. Being "a thing of beauty" we hope it may be "a joy forever."

☞ Some still presist in writing letters, leaving them unsealed and putting a one-cent stamp on them, thinking they have done a "smart thing." On all such, we have to pay 5 cents at this end of the route. All should remember, that anything written, other than on a postal card, must have a three-cent stamp on it, whether sealed or not.

Armstrong's Centennial Hive.

This hive has been duly installed into our museum since our last issue. A general idea of it may be gathered from the engraving herewith presented.—We much prefer the Langstroth hive, but as Mr. Armstrong has arranged his hive to use the newest improvements in the plan of getting comb honey, by means of Prize Boxes, tin separators, &c., bee-keepers can decide to suit themselves the question of the form, shape and *name* of the hive they prefer. It is the management and the manner

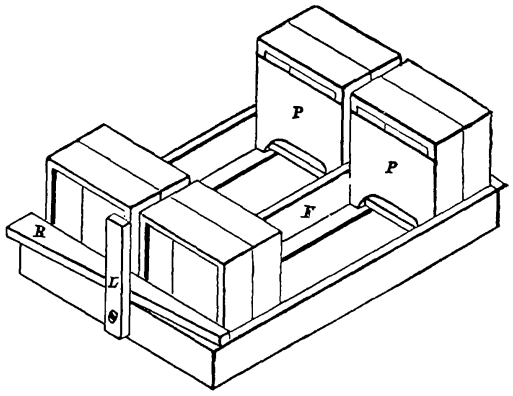


of putting up the honey far more than the hive they use, that must demand attention. Almost any one of the numerous hives may be used to profit, if the management be upon scientific principles.

The Comb-Honey Rack Mr. Armstrong uses is correctly illustrated by the accompanying engraving. The middle honey-boxes are removed, in order to show the independent separators (P P) which, it will be observed, are so formed as to rest upon the base of the frame of the Rack (F) leaving an opening at the top and bottom for the bees to pass from one box to another.

He also uses eight honey-boxes at the sides of the brood chamber for storing surplus—four on each side. This plan is adopted by many with good results—coaxing the bees to commence working in the boxes early.

These things being now admitted to be a part of scientific and rational management of bees for profit, Mr. A. shows wisdom in adapting them to his hive.



ARMSTRONG'S COMB HONEY RACK.

Mr. Armstrong has issued a very neat little descriptive circular which is sent free to all who desire it.

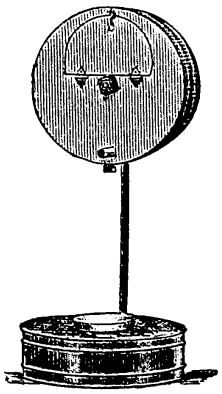
☞ During the season Fred. McCollunn of Council Grove, Kansas, had a colony which threw off four swarms. It was then given a thorough examination by Prof. Read who found seven young living queens. Five were caught and removed, and a few days later there was another swarm, all doing well.

☞ Dr. W. B. Rush was married to Miss Fannie A. Asher, on the 24th ult., at Granville, O., where he intends to reside in future. The JOURNAL extends its congratulations.

POSTAL ABSURDITIES. — There are some very queer things about our post-office regulations. Take the postal card, for instance, as pointed out by our contemporaries. If a man has a steady hand and writes closely, he may put several hundred words on a card and send it for a cent. If he pastes the least strip of printed matter on it, the postage is increased to 6 cents, though he may print on it the same matter, and by putting it in fine type get several thousand words on the card, and it will go for 1 cent; and he may paste the card all over with printed matter, then put it in an open envelope, and it will go for 1 cent. The card and envelope will go for less money than the card alone. When will these absurdities and inconsistencies be abolished, and everything go by weight at a uniform price?

Hill's Wax Extractor.

This consists of a boiler to hold the hot water, which may be placed on the stove, and from it a piece of gas-pipe runs up to the wax holder ; through this the steam is communicated to the wax, melting it and discharging it through a small tin pipe from the lower side, into a pan which may be placed on the boiler



below, and thus be kept from congealing till enough for a good-sized cake is extracted. This extractor turns upon its axis, and having a smaller vessel inside made of perforated tin, the wax runs through it to the discharge pipe, not only at the bottom but on all sides. We have not seen it work, but should think it capable of performing the object of its manufacture, *i. e.* melting the wax and thus preparing it for market.

☞ "Can anyone select the best queen to breed from, by simply seeing?" is a very pertinent question. If he is wholly unacquainted with the relative merits of the colonies, we think it next to an impossibility. If he is familiar with them and their characteristics, it would be quite easy to do so. "O. M. A" says, in reference to this: "I have 80 colonies of Italians so near alike, that if any one will select the best queen to breed from, upon examing them, I will give him 2 of the colonies. If he fails, he shall present 2 Italian colonies to the BEE JOURNAL. Here is a chance for the confident ones to test their skill. We shall see who will *dare* to take up the challenge.

The Langstroth Hive.

A correspondent inquires if there is a patent on the Langstroth hive, and whether any royalty can be collected of those using such ?

Certainly, *not !* That patent expired in 1873, and now there is no patent either on the hive or frame. All being free to make and use it at pleasure.

Sperry & Chandler have a patent on the "North Star Hive," including a manipulating side arrangement. This may be attached to any hive, and it is very applicable to the Langstroth hive. When so attached, the patent covers the "manipulating side," and not the hive in any sense.

In order to distinguish the Langstroth hive when so combined, from the ordinary Langstroth, it has been named the "New Langstroth Hive." Sperry & Chandler's claim being only on the "manipulating side," all are perfectly free to make, sell, use or vend the Langstroth hive or frame, in any shape, form or size to suit their notions. Though we hope all will study uniformity in size—the size of the standard Langstroth frame is 9⅛x17⅜ outside measure, with top-bar 19⅛ inches in length. The hive is 14x18½ inside, and 10 inches deep.

☞ At the Illinois State Fair, held at Freeport, Sept. 16-21, there was some honey exhibited, but nothing like the "Honey Show" that should have been made. Mr. Armstrong had his hive there on exhibition, and the "Excelsior" Extractor was represented. The Bingham smoker, Bingham & Hetherington uncapping-knife, and a few other small apiarian tools, completed the catalogue.

☞ Part II. of Novice's "A B C of Bee Culture" is on our desk. It covers the letters from D to H. A more appropriate name, we opine, would have been "Bee-Keepers' Encyclopedia," as that is really what it is. It will be handy as a reference book, when complete.

Lady Bee-Keepers.

On this shore of the Atlantic as well as in Europe, their "name is legion, for they are many." The best specimen of Honey in our Museum, is in an Isham box (very similar to the "prize box") and, is from the apiary of Miss Lucy Wilkins, of Farwell, Mich. This will no doubt be news to the excelleut lady producer, for she is not aware of the fact that we have any of her crop of honey. 'Tis true, nevertheless, and it has been admired by hundreds (yea, thousands) of our visitors, both from the city and country. As this honey was purchased from a grocery store where Miss W. sold it, we have, at least this once, stolen a march on our excellent lady friend.

By the report of the Honey Show in London, England, which may be found on another page, it will be seen that the Baroness Burdett-Coutts, the most distinguished and philanthropic lady in the world, is also a producer and exhibitor of excellent honey! Her Ladyship is interesting herself to ameliorate the condition not only of humanity, but also of animals and insects. The London *World* remarks that "from some cause, possibly from ignorance, children are hideously cruel to animals, taking a great delight in torturing them, especially if they happen to be insects. The Baroness Burdett-Coutts hopes that by disseminating instruction concerning animals in infant schools, this tendency may be checked and interest take the place of cruel tyranny. Of course, she is fond of them individually. Her favorite brooch is a cameo of Fan, a dog of infinite good qualities, called some years since to her final rest; and her perpetual companions are Ben, a delightful bull-terrier with a beauty-spot on his back, and a perky little black-and-tan of perfect race. At luncheon time these interesting little beasts are naturally to the fore. On either side of their mistress is a plate of the daintiest Sevres *pate tendre*, from which these lucky dogs eat their cutlets or minced chicken."

Of course her Ladyship has jewels in abundance; so much so, that special repositories have been constructed to receive and preserve them, but the *World* says that none of the many "treasures of the past, however, is dearer to their owner than the most recent addition to her jewels—the grand whatever it is—it cannot be the cross—of the Medjidjie, conferred on her by the Sultan of Turkey, for her substantial help in establishing the compassionate fund."

The Best is Always Demanded.

Not only do rich consumers demand the best article, but *all* who have the means to buy and the sense to discriminate, demand the same thing. They will turn up their noses at the inferior article, and take the superior one every time.

Honey as well as flour, beef, cheese, apples or grain, will bring the highest price and readiest sale, when it is of the *first quality*, and put up in attractive style. Poor honey, as well as poor butter, is a drug in every market! And yet many still cling to their old notions and put up their honey in clumsy and unattractive packages, and then grumble because they cannot sell it at the highest price paid for a first-class and attractive article! Forgetting that it is the gilt-edged article that brings remunerative prices and a brisk demand.

The market now demands light honey in single-comb boxes, and another year, no other will find sale without the aid of a steam engine or some such power to push it off. The enterprising, the wide-awake bee-keeper will use prize boxes—leaving the 6, 12 and 24 lb. boxes for old fossils to use, and then to whine over them because they can't sell them at any price. It makes no difference where it comes from—the best and most attractive goods are always in demand.

Wonderful Exhibition.

One of the most interesting and wonderful exhibitions that can be made is working Bees. It attracts attention where all else fails. Visitors will brave the dangers to see the wonders! Let us have at least *one* colony of working bees at all our conventions. All visitors at the Crystal Palace, in London, have a small hand-bill like the following put into their hands:

A Perfect Kingdom in a Peck Measure.

"*NEVER KILL A BEE!*"

South Wing Corridor, opposite end from Aquarium, leading to London and Brighton Railway Station, Low Level.

FIRST OF THE

Thousand and One Attractions!

OF THE

CRYSTAL PALACE

IS

Marriott's Exhibition of Working Bees!

This wonderful, extraordinary and interesting sight has been visited by thousands, and by all pronounced to be the cheapest and most intellectual Exhibition of the Age.

THE QUEEN BEE,

Mother of the Whole Hive,

Ligurian, or Italian Alps Bees!

PURE HONEY FOR SALE,

DON'T FORGET MARRIOTT!

CRYSTAL PALACE BEE MASTER.

The first Exhibition in the Crystal Palace, opened in 1854.

Many try to Equal, None can Excel.

The result has been magical. Improved appliances are the result all over the Kingdom! Increased demand and consumption are the rule! The Bee stands in the foreground, with admiring multitudes following! Of course they are happy, for "industry and cheerfulness are sworn friends."

That Floating Apiary.

Many inquiries have been received as to the result of Mr. Perrine's experiment with a "floating apiary." The St. Louis *Globe-Democrat* has a long report from which we condense the following:

In the spring Mr. Perrine purchased two barges of ordinary length and a little stern-wheel steamer. Whatever of failure has attended the enterprise is due the inferior speed of the boat and a series of exasperating accidents to her machinery. The two barges were provided with shelving, and 400 hives of bees placed upon each. The hives were painted in contrasting colors in order that the little workers could return to the proper hive, the colors aiding each in distinguishing his home by comparative location.

The steamer made such slow progress, owing to breakage of machinery, that the barges were abandoned and the hives were put on the tug. Every few days the boat would stop, the hives were taken ashore and the bees released and when the vicinity was exhausted they would be reloaded and the run made for another garden spot.

The bees are all doing well, and are making honey with a facility gratifying to their owner. The trip will be made through to St. Paul, and then the bees will be taken south for the winter. Satisfied that he has struck a successful solution of the problem of how to insure the honey supply Mr. Perrine will complete his arrangements during the winter for an apiary on a still larger scale, and will leave New Orleans on April 1, 1879, with 2,000 colonies, towed by a boat of assured speed and power.

☞ Notices of local Conventions are often left too late before being sent on for publication. Hereafter we propose to keep a standing table of *all* such in the JOURNAL, and will now request the Secretaries of such to send on for the next JOURNAL the time and place of next meeting. This will be very desirable for those wishing to attend, and to prevent clashing in time of meetings. We have been invited, pressingly, to attend four or five Conventions this month—all of them coming at the same time. This should be avoided, and can be, by having a reference table, as intimated.

Block for Frame Making.

Wilmington, N. C., Sept. 10, 1878.

Please give a cut of something to make frames on—something to assist in making and holding them together while nailing, &c.—with instructions for use.

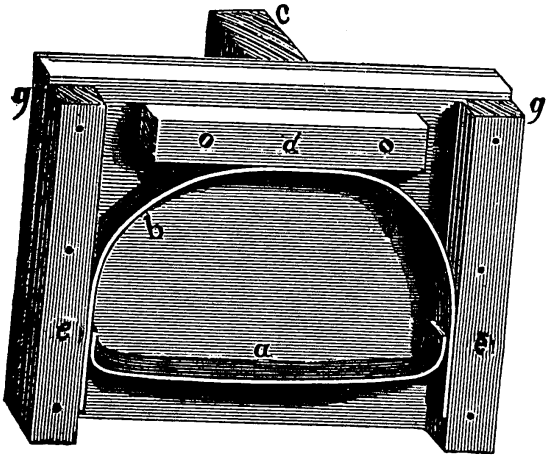
What does Prof. Cook use over his frames? Would it pay me to buy a foot power saw to make 100 to 150 hives?

R. C. TAYLOR.

Prof. Cook uses a quilt over his frames, made of unbleached factory, enclosing a thick layer of cotton-batting, hemmed about the edges and quilted.

We hardly believe it will pay to buy a saw for making 150 hives, but it would be a convenience. Your pine will make good hives.

Prof. Cook uses a block, like the one shown by the accompanying engraving,



Prof. Cook's Block for Frame-Making.

for frame making, and describes it thus, in his new Manual:

Take a rectangular board eleven and a quarter by thirteen and a half inches. On both ends of one face of this, nail hard-wood pieces (*e*, *e*) one inch square and eleven inches long, so that one end (*g*, *g*) shall lack one-fourth inch of reaching the edge of the board. On the other face of the board, nail a strip (*c*) four inches wide and eleven and a quarter inches long, at right-angles to it, and in such position that the ends shall just reach to the edges of the board. Midway between the one inch square pieces, screw on another hard-wood strip (*d*) one inch square and four inches long, parallel with and three-fourths of an inch from the edge. To the bottom of this, screw a semi-oval piece of hoop-steel (*b*, *b*), which shall bend around and press against the square strips. The ends of this should not reach quite to the bottom of the board. Near the ends of this spring, fasten, by rivets, an inch strap (*a*), which shall be straight when riveted. These dimensions are for frames eleven inches square, inside measure, and must be varied for other sizes. To use this block, we crowd the end-bars of our frames between the steel springs (*b*, *b*) and the square strips (*e*, *e*); then lay on our top-bar and nail, after which we invert the block and nail the bottom-bar as we did the top-bar. Now press down on the strap (*a*), which will loosen the frame, when it may be removed all complete and true. Such a guage, not only insures perfect frames, but demands that every piece shall be cut with great accuracy. Some such arrangement should always be used in making the frames.

California Honey Product.

When it is considered there were no bees in California till after the American occupation, the progress since made in honey raising may be set down as something marvellous. There are few valley countries in which the business is not prosecuted to some extent, but San Diego takes the lead, and has acquired a reputation for her annual honey product which reaches this side of the Rocky Mountains. The San Diego *Union* says:

Notwithstanding the fears which have been expressed of a short honey crop, caused by the backwardness of the season and unusual cloudiness prevailing in May and June, Mr. Harbison informed us that he now expected to produce altogether from his various apiaries quite as large a crop as the largest he ever produced heretofore, which was over one hundred tons—the largest amount produced by any one man in the world in a single year.

☞ Friend O. Clute has removed from Keokuk to Iowa City, Iowa, and all his correspondents should hereafter address him there.

Foreign Notes.

Britains' Bee Show and Convention.

The British Bee-Keepers' Association held its fourth Bee and Honey Show, at the Royal Horticultural Gardens, South Kensington, London, in August, as spoken of in last month's BEE JOURNAL. It was a grand success and will do much good, by assisting to drive the old methods out of use, and in their place to introduce the latest phases of scientific bee-culture. The first President of this Association was Sir John Lubbock. Its present President being a Lady Bee-keeper, whose name is recognized the wide world over as a synonym for benevolence and philanthropy, the Baroness Burdett-Coutts. Honey from her beautiful residence, "Holly Lodge," was on exhibition and received the highest commendation.

The London *Times* remarks that the honorary secretary, Mr. Peel, announced in his address preceding the distribution of prizes, that the show had been successful and well attended, and that it was expected to be repeated next year in the same place. Mr. John Hunter, a member of the committee, delivered a lecture to the visitors, in which he explained the improved methods of bee keeping by the use of bar and frame hives, and the process of driving the bees and transferring them from one hive to another while the honey was "slung" out of the combs of the first. The combs can, after this operation, be restored to be filled again by the industrious insects, who under older methods of culture would have been stiffled with sulphur, while their successors would have had to waste precious days of summer in building up fresh honey-combs from the beginning.

Several experienced bee-masters gave examples of manipulation, guiding the bees like a flock of sheep into new hives, and rapidly selecting the queen, whom the rest always followed, from the drones and workers. Examples of combining the inmates of several hives into one, were shown, and it was stated that strange bees would always be received into a new hive if they brought honey with them. If, however, they could not thus pay their footing, they would be driven away like the drones which, after being fed for a brief season with the richest syrups by the workers, are expelled to perish of hunger and cold at the mouth of the hive.

The following were the principal prizes distributed: For the best hive for observation purposes, all combs visible on both sides, exhibited stocked with bees and their queen.

For the best movable comb hive, including covering and stand.

For the most economical, be stand cheapest, complete hive, on the movable comb principle, for cottagers' use, including cover and floor board.

For a hive for general use, on an entirely new and approved principle.

For the best and cheapest supers for general use in an apiary.

For the cheapest, neatest, and best supers for producing honey-comb in a saleable form.

For the best stock of Ligurian or other foreign bees.

For the best stock of pure English bees.

For the largest and best harvest of honey in the comb and from one stock of bees, under any system or combination of systems.

For the best super of honey, the super to be of wood, straw, or of wood in combination with glass or straw.

For the best glass super of honey.

For the best exhibition of honey in supers, or sections of supers, separable, and each not more than 3 lbs. in weight, the total weight not less than 12 lbs.

For the best single section in the comb, weighing not more than 3 lbs.

For the best exhibition of run or extracted honey, in glasses of 5 lbs. to 10 lbs. each.

For the largest and best exhibition of super honey in comb, the property of one cottager and gathered by his own bees.

For the best super of honey shown by a cottager.

For the best exhibition of run honey in glass jars, containing 5 lbs. to 10 lbs. each, shown by a cottager.

For the best mead or beer made from honey, with recipe attached.

For the best and largest collection of hives, bee-furniture, bee-gear, and bee-keeper's necessaries, no two articles alike.

For the best honey extractor.

For the finest sample of pure beeswax, not less than 3 lbs. in weight.

For any new invention calculated in the opinion of the judges to advance the culture of bees.

For the best microscopic-slides illustrating the natural history of the honey bee.

For the best and largest display of British bee flora.

For the best and cheapest honey jars with covers and fastenings complete, to contain 1¾ lbs. of extracted honey.

For the competitor who in the neatest, quickest, and most complete manner drove out the bees trom the straw skep and captured the queen.

In addition to the principal distinctions, second, third, fourth, fifth, sixth and even seventh prizes, as well as high commendations, were awarded to exhibiters.

The most important part of the bee show was the exhibition of those methods of "driving" and manipulation by which the bees are induced to leave their hives. A competition for prizes in driving was on Tuesday held in a tent which had an inner inclosure of netting, so that the process could be observed without the spectator having to fear the stilettes of the enraged insects. The bees are first made drunk with sugar, or have their senses dulled a little with smoke, and are then drummed out of the hive into a straw skep, from which they are shaken into the new hive.

Many improved bar and frame hives were exhibited which makes the skill of the driver unnecessary, since the bees can be easily shaken out of them. In these a thin plate of wax is inserted to guide the bees in making their cells. They take advantage of the wall thus provided, and build against it. Their time is saved, and the combs are regularly built. A machine to produce these guiding walls, by rapidly passing wax under a roller, is exhibited this year. "Supers" are also shown. These are placed above the hives, and are removed as soon as they are filled with honey. Mr. John Hunter, the well-known apiarist shows American supers, to hold 1 lb. of honey. Extractors, in which the comb is placed and turned rapidly round till the honey is expelled by centrifugal force, are also shown.

Among the curiosities is a Portuguese hive of bark, exhibited by the Rev. F. T. Scott, and a quantity of honey produced on an upper floor in the strand, by Mr. Thurston, which were partly fed on syrup and partly foraged on the flowers of the embankment, or flew across the Thames to the learned shades of Lambeth. An interesting collection is that of the flowers from which bees chiefly gather their food—the spiked teasle, the meadow-sweet, the thyme which gave its flavor to the honey of Hymettus, the white nettle, the fragrant mignonette and lavender, with borage.

The exhibition was enlivened on the first day by a discussion, opened by the Rev. J. D. Glennie, on questions intresting to bee-masters. One of these was, "How far is the process which leads to swarming,

initiated by, and carried out with the good will of the old queen?" The prevalent opinion was, that the queen did not leave the hive willingly; one apiarist, indeed, had seen her forcibly led out between two resolute advisers.

The London *Telegraph* says that the silver medal for "driving bees" was awarded to Mr. Martin, of West Wycombe, who succeeded in emptying his hive and caging the queen in five and three-quarter minutes, the bronze medal being taken by a cottager named Thorn, of Beldock, Herts, who drove his bees in less time, but did not so readily capture the queen.

The Baroness Burdett-Coutts, graced the competition with her presence, and expressed her admiration of the skill displayed.

The judges gave the silver medal for the best hive in the show to Mr. C. N. Abbott, of Southall, whose hive was so ingeniously arranged that it could be contracted or expanded as the need of the bees might require. The first prize for a hive for observation purposes, was secured by Mr. Brice Wilson, of Newbury, whose exhibit was a well made though somewhat expensive hive, both folding and revolving, following in some degree the principal devised by Huber.

Among the hives manufactured expressly for cottagers, were several, which were both serviceable and cheap. Of the dozen competitors, the palm was yielded to Mr. James Lee, of Bagshot. The collection of bee-keepers' necessaries included a honey extractor, which, however, is much more largely used in America than in England. The medal in this class was adjudged to Mr. Stephen Knight, of Newbury. An assortment of microscopic slides, illustrating the natural history of the hive bee, was displayed by Mr. John Hunter, the well known apiculturist, to whom a silver medal was awarded.

Live bees formed not the least interesting part of the show, and the first prize for foreigners was carried off by some Italians, owned by Mr. Baldwin, of the Alexandra palace; Messrs. Neighbour & Sons, securing the second with their Hungarians. Next to these was a nicely arranged stand of the flowers from which the bees draw the largest harvest. Cottagers came well to the front in the honey classes, two of the highest awards being secured by men in this sphere of life in the competition with their richer neighbors. Noticeable as a curiosity was a quantity of "chimney-pot" honey, the designation being applied on account of the honey having been taken from a hive in a room sixty feet from the ground in the Strand, the bees being assisted during the breeding season by artificial means.

Battle between Bees and Geese.

The "Bohemian" relates the following: In the village of M——, within a small rear garden, a number of weeks since, there lived quietly and peaceably together the inhabitants of a bee-hive and a family of geese; the latter consisting of a gander, 6 geese, and 28 young but full-grown ones of both sexes. The bees permitted this flock to cackle *ad libitum*, and they in return placed no obstacles in the way of the industrious tribe of bees.

But on a certain afternoon it seems that a pert young goose, with its bill, came too close to the hive, and perhaps had, in its wantonness, picked at it, which obtrusiveness, however, had been objected to by some returning worker, who in return gave it a sting. The flapping of the wings of the wounded goose gave the signal for a general fight In great swarms the bees came upon the defenseless flock, to whom the way of escape was shut off by the fastened gate.

The uproar at last attracted the attention of the people within doors, and not until after having received numerous stings was the man servant enabled to open the gate. Already

6 geese lay dead upon the ground, 2 died immediately after, a few were blind and remained so, and the rest were more or less wounded and did not recuperate until days after. The bees were so exasperated that hours after, neither human beings nor animals could venture into this garden or any of the neighboring yards.

Translated for the American Bee Journal.

German Bee-Keepers' Convention.

The Eighth General Convention of Alsace-Loraine Bee-Keepers' Society, in connection with an *exhibition and drawing of bees*, flowers, auxiliaries of bee-keeping, and products of the apiary, took place at Hagenau, August 18–22, 1878.

The following was the programme: At 10 a. m. the exhibition opened; at 4 p. m. there was a concert by the Pompier music band, in the court of the "Hopfenhalle." In the evening, illumination and pyrotechnical displays.

Aug. 19th.—Exhibition continued; general convention of the Alsace-Loraine Forest Administration. At 8 p. m., concert by the Jæger music-band, at the Europæischen Hof.

Aug. 20th.—Reception of foreign bee-keepers. At 8 p. m., meeting and entertainment at the Brasserie du Commerce.

Aug. 21st.—Main day of the society members. At 9 a. m., within the outer hall of the theatre: Opening of the Eighth General Convention by Herr Bastian, President of the Society. The Society matters were then considered in the following order: Nomination of judges; annual statement by Herr General Secretary Zwilling; financial report by the Second Treasurer, Herr Balzer; reinstalment of the Central Committee; nomination of treasury revisers; society statutes. Then followed a lecture on "How to organize a bee exhibition;" reports from the Parisian Apicultural Exhibition, by M. A. de Dietrich; the Bee-Keepers' Exhibition at the World's Fair in Paris, by J. Dennler, and a discussion of interesting topics. At 1 p. m., a banquet at the Kauf haus. Afterwards, drawing and proclamation of winners of prizes.—Evening, fireworks and torchlight procession.

Aug. 22d.—7 a. m., excursion to Philippsburg-Falkenstein, two hours' sojourn at Niederbronn, and a return to Hagenau, where the officers elect were duly installed, and a grand reception ensued.

Visitors were provided with quarters free, and transportation free to their homes by the railroads.

It has been enacted that bee-keeping is to be taught in the public schools of Alsace-Loraine.

There was an excellent display of flowers, and an exhibition of hives, honey and beeswax, as well as many apiarian implements.

A public sale of bees occurred at the close of the Convention. After the drawing of the prizes, a magnificent banquet was provided, and all went home having spent 5 days very profitably in real German enthusiastic style.

Conventions.

Kansas State Convention.

This association assembled in Lawrence, Kansas, on Wednesday, the 4th ult. The meeting was called to order by the president, N. Cameron. On motion, O. W. Carpenter was elected secretary.

The minutes of the last meeting were read and approved.

The president then delivered an address, for which a vote of thanks was tendered.

[As this address was not received until the 21st ult. we are compelled to give a synopsis or omit it entirely.—ED.]

President Cameron explained that the association had not been called together for 4 years, because the excursion railroad fare made it next to impossible to get more than a *local* meeting. He deprecated the publication of honey yields as detrimental to bee-keepers, because, it induced many to embark in it only to be sadly disappointed.

He did not believe queens should be sent by mail with honey in the cage, for it was very likely to daub the mail matter. He favored candy-feed only for shipping. He also condemned in strong terms the nefarious practice of the adulteration of sweets; said that it was now almost universal and demanded the action of Congress to stop it. The health of the nation demanded some legislation to stop the flooding of the country with vile compounds called "syrups," as well as adulterated honey.

He remarked that these subjects were all important to bee-keepers, and demanded their attention rather than discussions about abstract questions, upon which no decision could be obtained.

The secretary then read communications to the association as follows: From I. P. Watt, Duck Creek, Ill., asking what part of Kansas is best adapted to bee-keeping, and what honey plants succeed best. There were none that could give much encouragement to go into bee-keeping as an exclusive business. The communication was turned over to the president to answer.

A communication from G. F. Merriam. Bernardino, San Diego county, Cal., giving a report of his apiaries for this season.

A communication from Charles Dadant, Hamilton, Illinois, on honey as a medicine, and adulteration.

One from Jas. Heddon, Dowagiac, Mich., entitled, "Stray Thoughts," touching various important topics in bee-keeping.

The subject of adulteration was discussed, and a committee appointed to prepare a bill to prevent and punish adulterators of food and to urge it upon the attention of the legislature next winter. Committee—N. Cameron, M. A. O'Neill and S. M. Allen.

There was on exhibition comb-foundation machines and white clover honey by F. J. Farr, Independence, Mo.; hives, honey, comb-foundation and section-boxes by P. Underwood, North Lawrence; section-box by J. Heddon; honey extractor, sample of honey-dew honey and bellows smoker by N. Cameron; and Cook's Manual by T. G. Newman & Son, Chicago, Ill.

After a vote of thanks to Judge Smith for the use of his room, the meeting adjourned.

O. W. CARPENTER, *Sec.*

Lancaster Co. (Pa.) Convention.

This Association met at Lancaster, Pa., on Monday, Aug. 12, 1878.

The following members and visitors were present: Peter S. Reist, Litz (Pres't); J. G. Martin, Earl; Amos G. Wenger, Mastersonville; Tobias Seachrist, Manor; Samuel Erb, Warwick; G. S. Lintner, City; John Metzler, West Earl; Isaac Shirk, West Earl; J. F. Hershey, Mount Joy; J. M. Johnston, City; F. R. Diffenderfer, City; Elias Hershey, Paradise; John Huber, Pequea; Daniel Krider, West Lampeter: J. F. Schaffer, U. P.; B. F. Seldomridge.

The meeting was called to order by the President, who read the following address:

GENTLEMEN: It affords me great pleasure to meet the members of the Lancaster county, Pa., Bee-Keeper's Association again after a lapse of three months. Allow me, therefore, to greet all brother bee-keepers present, and bid all interested in bee-culture welcome to our city and to a participation in our discussions to-day.

As the time of our meeting is precious, I shall not trespass with any extended remarks. Suffice it to say that we meet here to discuss the habits and the management of bees, a subject that is becoming of great interest, and an industry which is the most remunerative, considering the amount of capital invested and cost of management, of any pursued in the country.

The number of pounds of beeswax now produced in the United States is about one million and a-half; this at 25 cents per pound would make $375,000.

The number of pounds of honey produced is now about 24,000,000; this at 15 cents per lb. would make the sum of $3,600,000, of which Pennsylvania alone produces about 1,500,000 lbs.

There are about 3,000 hives of bees in Lancaster county, 50,000 in the State and about 900,000 in the United States, from all of which is collected a surplus natural growth and substance which would be a loss to the human family were it not for the little bees. A gentleman in conversation with a friend on this subject once remarked, when asked if he was keeping many bees, "I own a lot, but the bees are keeping me," and such is the case in many instances.

Since so many volumes have been written and so many journals are published on bee-culture, I will ask to be excused from saying more than that there are a number of certain facts, well established, which we must understand and follow if we would be successful in bee-culture.

There are three kinds of bees, in every prosperous hive—the drones, the queen and the workers. The workers constitute the main body of the colony. These do all the labor, but live only about two months, and are the smallest. The drones are the male bees, fewer of which are raised in a hive, and are always destroyed after the honey season. They fecundate the queen, do no other work, and are clumsy and nearly as large as the queen herself, but are drones in every sense of the word.

The queen bee is the only perfect female in the hive. She is the mother of all the others. No colony can exist and prosper without the queen. There can never be two queen bees in one hive. She leaves the hive when about seven days old to meet the drones for the purpose of becoming fertilized, and never leaves the hive again, except with a swarm. The queen sometimes lives three years. She is capable of laying 100,000 eggs in one season.

There are four substances secreted in gathering by the bees, viz: pollen, or bee-bread, propolis, wax and honey.

A great deal depends on the management of bees and the handling thereof. There is a spring, summer and winter management, natural and artificial swarming, feeding, the kinds of hives or boxes, and the destruction of fruit. The subjects, together with the management necessary for every month in the year, will make good questions for our consideration to-day. The study of bee life and how to treat them so as to receive the most good from their labors, is a most interesting one and well deserves the attention of both farmer and scientists.

In the absence of the regular Secretary, F. R. Diffenderfer acted in that capacity.

REPORTS.

G. S. Lintner reported his bees as not having done as well as last year. He started with 8 colonies and they have increased nearly 100 per cent. The weather was not favorable and they have not made as much honey as they should have done.

J. F. Hershey said the spring was not favorable, some of his colonies were in a starving condition. He started with 62 colonies and has now 40 more. He has already taken away some 500 or 600 lbs. of honey and will get more. He gave his attention more to raising queens, and that prevented natural increase to a large extent.

John Huber said in the early summer some of his colonies did well, but since haymaking they have not done much. There has not been the increase that there should have been.

Elias Hershey started in the spring with 15 colonies and now has 27. His are Italian bees and have made about 25 lbs. of honey to the colony.

J. G. Martin said he had 5 colonies in the spring, sold 6, and now has 24 colonies. He has so far taken off 500 lbs. of honey, and still has a good deal more. He used a good quantity of foundation comb. The bees are doing well in his neighborhood, now, but did not do so well in the spring.

J. B. Eshleman, of Ephrata, reported that the increase of his colonies was small, he having made only 8 natural and 1 artificial swarm. His object is more to get honey than bees. He gave as a reason for the small increase that his colonies were very strong and in good condition in the early spring, and had made preparations for swarming, when the inclement weather came on, which prevented them from making much honey from the trees then blossoming; the great change in the atmosphere seemed to stop all further progress in the way of swarming. Had not this occurred he thinks he would have had more swarms in April alone than all his subsequent increase has amounted to. The yield of honey so far has been over 500 lbs., including what is still in the hives. The prospects for an additional surplus is good about Ephrata, the rains having improved the pasture.

Daniel Kreider began with 8 colonies and now has 14. He has taken away about 150 lbs. of honey, and his bees are still hard at work, with a fair promise of increasing their stores.

J. T. Sheaffer started with 9 colonies, and has now 20. He tries to raise bees more than honey. His bees have never done better. They are busily at work. The spring was unfavorable. He has Italian bees. His boxes are now full and they are storing away in the surplus boxes. He would have none but Italians. Some swarmed three times.

B. F. Seldomridge had 5 colonies to begin with and they swarmed well; all are now at work in the honey boxes, having filled the hives. Some are storing in the second extra box. All but one are Italians. His bees have never worked so well in July as at this season.

Amos G. Wenger started with 14 colonies in the spring. He has made about 350 lbs. of honey. His bees have done very well. In April they were doing well, but in May they nearly starved. From 3 Italian colonies he has now 8. In July they did very well.

The President remarked that bees seemed to require moisture as much as grass or corn. When the season is too dry they do not store up largely, but if the season is too wet it is also detrimental to the storage of large honey products. He had about 30 colonies. He has given them out on the shares. One man who got 15 hives, now has 32. They are gathering honey fast, and all seem to be doing well.

QUESTIONS FOR DISCUSSION.

"DO BEES SELECT A PLACE FOR THEIR HIVE PRIOR TO SWARMING?"

J. F. Hershey has seen a swarn leave the hive and go direct to a distant tree to remain. Often small working bodies of bees leave the main swarming body and seek a place to stop in. Many swarms are lost by bees going off. If the wings of the queen are clipped prior to swarming the bees do not escape.

J. G. Martin clips a wing of the queen and has lost no swarms; once he lost the queen by this operation, but saved the swarm. The clipped wing never grows out again.

G. S. Lintner divides his colonies and thus saves all trouble and loses no swarms. If a looking-glass is used when the bees are in the air and the reflected light is thrown upon them, they lose their course and come down at once. They are unable to withstand this test.

J. F. Shaeffer has tried all ways, and finds dust, stones, clubs and such articles about as good as anything. The looking-glass can't be used in cloudy weather and will hardly stop a swarm with a young queen. He does not know what to say about the selection of a place for a hive prior to swarming.

The President thought it unnatural for the bees not to select a place prior to issuing from the hive. He saw a swarm recently go direct to a hollow tree. Bees have been known to clean out a hollow tree several days prior to swarming as if making ready for that event. Bees have been known to be busy in and about a tree, then to leave it for a few days, and a swarm finally to take up its quarters there.

IS HONEY FOUND AS A NATURAL PRODUCT BY THE BEES, OR DO THEY MANUFACTURE IT?

J. F. Hershey.—Bees gather honey, they do not manufacture it. If bees gather from buckwheat it is buckwheat honey; if white clover it is white clover honey, etc. All the change that occurs in the honey is caused by the evaporation of the water; if sugar syrup is fed and stored in the comb, it is still the same.

J. G. Martin two years fed sugar syrup, and it did not seem to be any thing else when put into the combs.

J. F. Shaeffer agrees with Mr. Hershey. The honey will be just as the bees gather it, but evaporation will change it. The scent however remains the same, whether it be white clover or any other substance.

CAN A LOCALITY BE OVERSTOCKED BY BEES?

J. F. Hershey said he never had enough to test the question. Eighteen years ago, there were 10 colonies within a mile of his house; to-day there are 250, and they all gather as much honey as the early ones did. How it would be if a great many were congregated at one place he does not know, and was not prepared to say.

THE BEST REMEDY FOR BEE STINGS.

J. F. Shaeffer said spirits of ammonia are the best remedy. It prevents nearly all swelling and is a sure remedy to prevent pain.

Elias Hershey said an application of honey will prevent swelling; at first was intensely pained by the stings; now he no longer minds them.

J. F. Hershey corroborated the above;

stings have no longer much effect on him; they are no longer painful and cause little swelling. An onion will prevent swelling.

THE BEST WAY TO GET BEES OUT OF A HONEY BOX?

B. F. Seldomridge said, bore a gimlet hole in the box and blow smoke into it; all the bees will then go below.

J. F. Hershey said, if tobacco smoke is used it may infect the honey with its odor. He takes off the box and puts another on the top of it, when the bees generally ascent if the box is rapped on; when they have all gone into the new box he places it where the box filled with honey stood.

WHICH IS BEST, NATURAL SWARMING OR ARTIFICIAL DIVISION OF THE COLONY.

G. S. Lintner divided some colonies this spring and they did not do so well; but the weather was unfavorable. More honey is made by natural swarming, and more bees by the artificial method. He explained the process of making 3 colonies out of 2, that has proved successful with him.

J. F. Hershey said for such as look after bees, artificial swarming is best. By artificial swarming we get colonies when we want them—that is, in the honey season. By natural swarming we must wait until they swarm and sometimes they swarm too often, and too late.

Mr. Shaeffer said, to drive colonies one should understand the business thoroughly. About the 8th of June is the best time. He approved of artificial swarming. In natural swarming all the young bees come out, some of which are immature and wanting in strength and are frequently lost. A pint of bees now and then amounts to a good deal.

PREPARING COLONIES FOR WINTER.

J. F. Shaeffer advised all persons who were not thoroughly posted, to leave their bees on their summer stands. Once he lost 8 out of 11 colonies by trying to shelter them artificially, You must shelter them from behind by boards or straw, but leave the fronts exposed to the sun. There are always fine days when they can get the sun.

J. F. Hershey lost 50 colonies out of 102, by keeping them on the summer stands. Two years ago he built a sheltering house for his bees, which he can ventilate; it is dug 4 feet into and built 4 feet above the ground, or 8 feet high, with earth banked around the surface above ground. In this he wintered 70 colonies, some of them very weak, and got them all through safely. They are placed in 3 tiers, the strongest below and the weakest on top; he keeps the temperature at as nearly 45° as he can; he ventilates his house by tubes. When it gets too warm he sometimes opens the door over night, and thus reduces the temperature. He gives them a chance for a fly sometimes in early spring.

On motion, it was resolved to hold the next meeting on the second Monday of November.

There being no further business, the society adjourned.

PETER S. REIST, *Pres't.*

F. R. DIFFENDERFER, *Sec'y pro tem.*

Correspondence.

For the American Bee Journal.

Another Bee Enemy.

About one year ago I received a small bug from a gentleman in Maryland, together with the information that it was a serious enemy of the honey bee. It was stated that this bug would lie concealed among the flowers, and upon occasion would grasp a bee, and, holding it off at arm's length, would suck out its blood and life. More recently, I have heard of the same insect with the same habits, in Iowa, Missouri, Illinois, and more recently, through the editor of *Gleanings*, from Minnesota, and later still, from V. W. Keeney, Shirland, Ill. In one case it was stated that the bug had the power, which it was not slow to us, ofe stinging quite severely. This same insect has been observed by both Prof. W. J. Beal and myself, at this place, resting on flowers, in which it is often almost concealed, awaiting an opportunity to capture and defluidize its prospective victims.

WHAT IS IT?

This is a Hemipteron, or true bug, and belongs to the family *Phymatidæ Uhr.* It is the *Phymata Erosa*, Fabr., the specific name erosa referring to its jagged appearance. It is also called the "stinging bug," in reference to its habit of repelling intrusion by a painful thrust with its sharp, strong beak.

BIBLIOGRAPHY.

This insect is mentioned by the lamented Dr. B. D. Walsh (Am. Entomol., vol. 1, p. 141), who facetiously compares its intelligence with that of the highest bipeds, who

FIG. 1.—*Side View, natural size.*

are often ignorant of the difference between a bee and a beetle, nor could they safely grasp the former. Yet this humble bug does know the distinction, and holds the bee well off, so as safely to suck out its substance. On p. 25, vol. 2, of the same work, this insect is briefly described and its habits given. Dr. A. S. Packard speaks of this stinging bug, in the American Naturalist, vol. 1, p. 329, and also in his Guide to the Study of Insects, p. 552, where the insect is figured. Mr. Townend Glover, late of the Agricultural Department, in his beautiful work on the Hemiptera, p. 57, has described the habits of this bug, and has given three fig-

ures of it, Plate III., Fig. 13. Prof. P. R. Uhler, our greatest American authority in this sub-order, in "Hemiptera West of the Mississippi," p. 58, speaks of the habits of the Phymata Erosa. In the current volume of the *Country Gentleman*, p. 551, the able entomological editor, Prof. J. A. Lintner, in response to a correspondent, gives a brief account of the habits, etc., of this same insect.

DESCRIPTION.

The "stinging bug" (Fig. 1) is somewhat jagged in appearance, about ⅜ of an inch long, and generally of a yellow color;

FIG. 2.—*Magnified twice.*

though this latter seems quite variable. Frequently there is a distinct greenish hue. Beneath the abdomen, and on the back of the head, thorax and abdomen, it is more or less specked with brown; while across the dorsal aspect of the broadened abdomen is a marked stripe of brown (Fig. 2, d, d). Sometimes this stripe is almost wanting, sometimes a mere patch, while rarely the whole abdomen, is very slightly marked, and as often we find it almost wholly brown above and below. The legs (Fig. 2, b), beak

FIG. 3.—*Beak, much magnified.*

and antennæ (Fig. 2, a) are greenish yellow. The beak (Fig. 3) has three joints (Fig. 3, a, b, c) and a sharp point (Fig. 3, d). This beak is not only the great weapon of offense, but also the organ through which the food

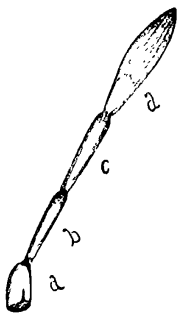


FIG. 4.—*Antenna, much magnified.*

is sucked. By the use of this, the insect has gained the soubriquet of stinging bug. This compact jointed beak is peculiar to all true bugs, and by observing it alone, we are able to distinguish all the very varied forms of this group. The antenna (Fig. 4) is four-jointed. The first joint (Fig. 4, a) is short, the second and third (Fig. 4, b and c) are long and slim, while the terminal one (Fig. 4, d) is much enlarged. This enlarged joint is one of the characteristics of the genus Phymata, as described by Latreille. But the most curious structural peculiarity of this insect, and the chief character of the

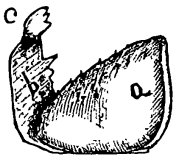


FIG. 5.—*Anterior Leg, magnified—exterior view.*

genus Phymata, is the enlarged anterior legs (Figs. 5, 6 and 7). These, were they only to aid in locomotion, would seem like awkward, clumsy organs, but when we learn that they are used to grasp and hold their prey, then we can but appreciate and admire their modified form. The femur (Fig. 5, b)

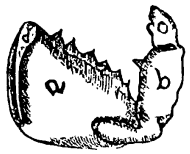


FIG. 6.—*Interior view.*

and the tarsus (Fig. 5, a) are toothed, while the latter is greatly enlarged. From the interior lower aspect of the femur (Fig. 6) is the small tibia, while on the lower edge of the tarsus (Fig. 6, d) is a cavity in which rests the single claw. The other four legs (Fig. 8) are much as usual.

HABITS.

This insect, as already intimated, is very predaceous, lying in wait, often almost con-

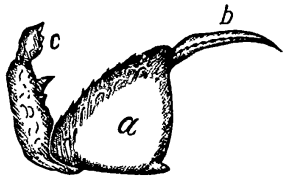


FIG. 7.—*Claw extended.*

cealed, among flowers, ready to capture and destroy unwary plant-lice, caterpillars, beetles, butterflies, moths, and even bees

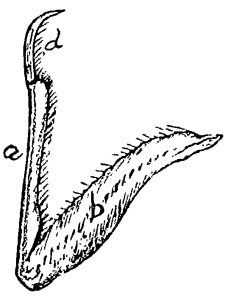


FIG. 8.—*Middle Leg—much magnified.*

and wasps. We have already noticed how well prepared it is for this work by its jaw-

like anterior legs, and its sharp, strong, sword-like beak.

Mr. Keeney says he caught the one he sent on golden rod. This plant, from its very color, tends to conceal the bug, and from the very character of the plant—being attractive as a honey-plant to bees—the slow bug is enabled to catch the spry and active honey-bee.

VERDICT.

As Prof. Uhler well says of the "stinging bug:" "It is very useful in destroying caterpillars and other vegetable-feeding insects, but is not very discriminating in its tastes, and would as soon seize the useful honey-bee as the pernicious saw-fly." And he might have added that it is equally indifferent to the virtues of our friendly insects like the parasitic and predaceous species.

We note, then, that this bug is not wholly evil, and as its destruction would be well-nigh impossible, for it is as widely scattered as are the flowers in which it lurks, we may well rest its case, at least until its destructiveness becomes more serious than at present.

A. J. COOK.

Agr'l College, Lansing, Sept. 14, '78.

For the American Bee Journal.

The Standard of Purity.

The question of a standard of purity for the Italians is one which interests me much, for my own ideas on that subject differ from those of most apiarists. I fear it will be very hard to decide conclusively what is the original type of the Italian in its state of perfect purity. But, let us see what is the evidence as we now find it: In all peculiar and distinct varieties, whether of animal, fowl or insect, there is some set typical mark of form, color or character; in quadrupeds it is generally seen in the form; in fowls, in color and form, giving preference to color; while in our bees (insects), there is scarcely difference enough in the form to make it a distinguishing mark; so we must fall back entirely on color and character for the typical mark. I wish Darwin, with his facilities for research, had given us his opinion on the subject, but I can find nowhere in his "Origin of Species," anything throwing light upon this matter. Going back to the ancient writers, Pliny, Virgil, Columella and others, we still find nothing sufficiently clear to be of much service.

There are two opinions at present among apiarists as to their origin—one, that they are a climatic variety, which has assumed this type by being reproduced for many centuries in certain districts. The other, that it is a cross upon the Egyptian bee. We can glean nothing on this point, either, from ancient writers. So let us look up the modern evidence as we find it.

Granting them to be a climatic variety, we notice that the bees of Milan and Lombardy, where no black bees are found, are a much lighter yellow than those of Piedmont, the Grisons and Lower Italy, where there are blacks. Also, that the bees from the former districts are more gentle and peaceable than those from the latter, where they seem to partake more of the disposition of the blacks. These things, we should think, would go to prove that the type of the pure Italian was yellow—and the yellower the purer as to color—and a mild, peaceable disposition in point of character, and where they are not found of this uniform pure yellow (without dark annulations, spots or tips), it shows a slight admixture of black blood, for surely, what is to prevent this? We find the two races in Italy in immediately adjoining districts, without natural barriers of any kind to prevent their union.

Any variety of animal or fowl, when perfectly pure, should reproduce in its offspring the typical marks by which it is distinguished, almost exactly; and, as a general rule, we will find that the yellower the queen, the more apt is she to do this, provided she be purely mated. Her daughters should be exact copies of herself. In regard to the workers, she should produce every one marked exactly alike—do not call them pure when some of them will show the third band plainly only when distended with honey, while others show at all times the three plain, broad, golden bands. No, there is something wrong even if none can be found which cannot be made to show the third bands. They must all be marked exactly alike. But some will say we have many dark queens that produce every worker alike, and perhaps duplicate themselves in their daughters. Very well, this is very easily explained, and very reasonably, too; for when there has been a cross of any two varieties, if this cross is then bred in upon itself, it will in time become a fixed type of its own. This accounts for our having light and dark-colored Italians, both queens and bees.

There is one thing, though, which puzzles me no little, that is, the statement of some of our most reliable men, that they have queens of a shining black which produce very light pretty workers. I have never seen or raised such. Will those who have, please let us know whether they were raised from the very light, or dark queens? The blackness of these queens I can only account for, by thinking that there must at some anterior time have been an admixture of black blood in the colony from which she came, and all naturalists recognize the law, that the progney of a cross will often show the pure markings of either side in certain individuals as well as the varying degree of resemblance to both found in others. And these peculiarities will often crop out many generations afterwards. How many of us have noticed the striped markings of the wild ass of the eastern deserts cropping out in the mule, his remote descendent, and a cross at that, showing for how long the traces of the blood will show itself in the descendents of any variety. On this account all crosses are liable to many variations of color.

If we take a queen of the light yellow variety and cross her with a hybrid drone very few, if any, of the bees will be entirely without the third band, only more irregularly marked and darker than if she had mated purely. But, if the queen be of the dark variety, many of the workers will show only two and some one band; at least, such has been my experience. This shows how

a darker variety may originate; and also, the inclination of the dark queen towards the black blood. Some apiarists gave this as a reason why most people wanted the very light-colored dollar queens; for if they had mated with a hybrid drone they would still show, what many take to be the mark of purity—i.e., three bands. I never call a queen pure Italian unless she produces bees, which show the third band *plainly* at all times, and queens that are regularly marked light yellow with no black on them; there are not many such I know, yet a few are found among the imported queens, and some where very careful breeding on light stock has been practiced. But I believe we have very few really pure Italians, with no black blood in them.

I know that these ideas will clash directly against those of some of our best apiarists, breeders and importers; for most of them hold that the dark queens are the best and their workers the best honey gatherers. Hence they say that they are just as pure Italians. When I say Italians I do not mean anything that comes from Italy, for there are black bees there, too, but I speak of the light yellow variety found there and no where else. I agree with them in the first point, but not in the latter. And now comes the main point; which do bee-keepers want, absolutly pure Italians or the most industrious honey gatherers? For those who want the former I would say, get the light yellow queens, without any black on them if possible; but to those who want the latter, and I do for one, I would say get the darker grades by all means. And now for my reasons for this advice, not that I have any interest in the matter, or have come with an "ax to grind," —for I *have no queens for sale*—I do not believe the pure Italians are as good as those which have a slight admixture of black blood, say about one-eighth. When it is as much as one-haif, there is too much of the black, and they partake too much of their character.

In the summer of 1877 I bought some queens of H. Alley, which were the lighest I had ever seen at that time. I selected the largest, most active and prolific, and from her raised a good many queens. I had in the apiary about 80 hives, and only 10 of them pure Italians, the rest were from hybrid mothers; so the chances were about eight to one on these queens mating with hybrid drones. In the early spring the pure Italians were, with the exception of one colony, weak; the hybrids were still worse off; while the light queens which I had raised, for they were exact copies of the mothers, were strong and doing well; one swarmed March 15, with 16 frames well filled with brood and honey, while the others were all doing nearly equally well, and they have continued ahead all the way through. I took 110 lbs. from one and nearly as much from the others, but none of the other classes of bees have yielded more than 40 to 50 lbs. These bees all show three bands, but none of them are regularly marked bright yellow, as the bees of the mother are, and the rings are more of a copper than golden color. The third band can be seen in all, but is narrow and dark in some and in others unusually broad and full.

I have now some of the dark varieties of queens which please me very much, but I do not call them Italians. The pure queens all did very well for a while, but ere the summer came they showed signs of failing and now none of them are first-class layers. I have one of the dark queens which reproduces herself almost exactly, but I do not think this an evidence that she is pure Italian; but pure of the type or grade of admixture to which she belongs. This is the very class of queens I want, and which I think will prove most profitable to the apiarist who is after honey and dollars, regardless of pretty looks.

And now for the second view of the case; supposing them to be a cross of the black and Eygptian bee, (which I have never seen or even a good description of it), there will be no difficulty on this stand-point, for the rules applying to the cross of Italians, and blacks, will of course fit here exactly. There are none *pure*, only some (the light ones I suppose) have taken after the Egyptian side of the house, and the darker ones *vice versa*. Cannot some of our scientific European apiarists who have the facilities, try the experiment of crossing the black and Egyptian bee, then breeding from the cross and see what they will obtain? There is room for a great deal of both thought and experiment in this matter—we want the latter especially.

I believe the Cyprian bee to have originated in one of these dark grades of Italians, and being shut up in its island home, by constant reproduction and certain climatic influences, to have assumed the present type.

These now are my ideas gained from my observation, reading and experience. I only advance them as *ideas*. If I am wrong I hope some of our older and more experienced apiarists will take up the subject and show me where, for I am eager to learn as much more on the subject as possible. I shall continue to experiment and hope all will do the same and give us the result.

J. D. SLACK.

Plaquemine, La., Aug. 12, 1878.

For the American Bee Journal.

A City Besieged by Bees.

For six weeks past our bees have not collected honey enough to supply their daily wants. A little over a month ago, I extracted about all the honey I could get from several of my strongest colonies, and to-day there is scarcely a cell of capped honey in any of those hives.

A month of dry, scorching weather left our hillsides destitute of flowers, so that pilfering from our grocerymen and housewives seems to be their only means of support. The groceryman who leaves sweets exposed, or the housewife who attempts preserving fruit, is visited with "twenty thousand strong" in less time than it will take me to tell you about it, for no sooner do our busy little workers catch the scent upon the breezes, than away they go to the place of attraction.

The Bee Convention held here last spring has aroused such an interest in bee-keeping, that the business is entirely overdone.

There must be nearly five hundred colonies in the city of Burlington.

Well, the result is this, our citizens are justly complaining, our grocerymen and fruit dealers are terribly annoyed, our ladies are provoked and say some hard things about the bee-keepers, and the reporter of our evening paper has been admonished to do his duty, and now we are catching it through the columns of one of our dailies and your humble servant has been alluded to in a manner that comes very nearly being personal.

The great scarcity of flowers for the last few weeks is the cause of all this difficulty. If bees can get an "honest living" they will do it, but if they cannot, you know, they are given to thieving.

"What shall be done with my bees?" has been the question with me for the last few weeks. Realizing, as I do, that no one has a right to do anything that interferes with the rights of others, I have determined on shipping my bees out of the city as soon as possible. I have already made arrangements with a gentleman in the country to take them, and so in a few days I shall be deprived of the real pleasure I have hitherto enjoyed of spending my mornings and evenings in the apiary. I shall, however, continue an interest in forty or fifty colonies, but cannot give them the personal attention I so much desire.

The heavy rains we have had recently, have revived vegetation, and we are expecting our fall flowers to yield unusually large supplies. I. P. WILSON.

Burlington, Iowa, Aug. 25, 1878.

For the American Bee Journal.

Establishing the Purity of Italians.

MR. EDITOR: I believe you are correct. We should have some established standard of purity for the Italian Bee. But, query: Who shall fix the standard? Not one, but all; not in person, but by voice in delegation.

All will agree that the worker-bees must show three distinct bands, but all, probably, will *not* agree as to their color! One wants them *orange;* another, *leather;* and a third, *chestnut;* while others have little or no choice in the shades, on condition that the bees are long and tapering below the thorax, and quiet in disposition, not leaving their combs for a given time after being removed from their hive, though carried in the open air.

Some, no doubt, will have strong prejudices in favor of the shades of queens, and the number of the crowns and spots on their bodies. But long experience shows that shades and spots are largely dependent upon the manner and season of breeding queens.

Beauty of color should never be made a test of purity in blood, yet it should be coveted when not at the expense of good qualities. A. SALISBURY.

Camargo, Ill., August 24, 1878.

[Friend Salisbury is right. Let the National Society appoint a committee to take all the testimony, weigh well the points, and then render a decision. In other words, give us a STANDARD. Such a committee should be composed of the ablest and most thorough men we have, and the committee should have time given them in which to report through the bee papers. And when this is done, let that be accepted as the Standard, by which to judge all disputed cases of purity.—ED.]

For the American Bee Journal.

Chaff from Sweet Home.

Such, in a great measure must bee-keepers regard the long article which was published in the August No. of the AMERICAN BEE JOURNAL, from the so-called Zell's Encyclopædia and the corrections (?) by D. D. Palmer.

The note Mr. Palmer received from the publishers, confessing their ignorance of the source of their information on the bee, and also their statement, that it was probably procured from standard works on the subject, which to practical bee men, are known to be unreliable, &c., shows very clearly of what unreliable material Zell's Encyclopædia is composed.

Because of this confession it logically follows, that the balance of the book is equally worthless, which I believe has long been well known by scholars.

We supposed, however, that D. D. Palmer was a practical bee man, and would write practical facts. Instead, however, in his so-called corrections, he has given to the world through the AMERICAN BEE JOURNAL and the aforesaid Encyclopædia, some of the worst "Chaff" ever written on the "bee." Take his No. 1. It is generally believed by practical bee men and asserted as a fact by anatomists, that when a bee loses its entire sting by its being dragged out of the abdomen, it must and invariably does die in a short time. If friend Palmer will examine the anatomical parts of a bee for himself, I think he will change his mind.

No. 2 is undoubtedly composed of both truth and error. The queen is the mother-bee of course, and she is also queen quite as much so as Victoria is the Queen of England. Both are rulers to a certain extent, and both are ruled. He says: "When swarms issue, she does not come forth of her own free will, but is pulled, crowded and dragged out." This may be so sometimes, but not always, as I have witnessed the exit of the queen, and I have never yet seen the least evidence of any crowding or pulling out. I also know that sometimes she comes out out among the first, and sometimes at the very last. I have seen her once this season walk out of the hive very deliberately after the swarm was high up in the air. The entrance was large and free, the alighting board long, and I had a free, unobstructed view of her. She was picked up and placed on a brush which was hoisted up into the air among the bees. They at once found her and commenced settling on and around her.

In No. 3 our Encyclopædist says: "The queen is never accompanied by a guard of 12 workers, neither more nor less, but a part of the time she is accompanied by workers,

which caress and feed her *just in proportion to the number of eggs laid.*

How did you obtain the fact of this proportion Bro. D. D.?

But the climax of absurdities is reached in No. 6. He says: "Of those (eggs) laid, after mating, produce mostly workers depending upon whether laid in drone or worker cells." So then Bro. P., you have concluded hereafter, to have the queen lay one kind of eggs only and the character of the bee determined by the nest or place of deposit?

Some fellow—genius would be the better word—has already proposed caging queen cells and hatching the queens under a setting hen. Now D. D., if you and this Texas genius would unite your forces, and you could induce your queens to lay eggs in a brahma hen's nest, you would at least solve the chicken problem. I have not said anything about our author's grammar, which is on a par with his statement of scientific facts in relation to bee culture.

But enough for the present. When Encyclopædias are made up of such stuff, is it surprising that they should be in disrepute?

A. W. FOREMAN, M. D.

White Hall, Ill., Aug. 19, 1878.

For the American Bee Journal.

Italian vs. Black Bees.

MR. NEWMAN:—In Mr. F. Bangs' plea for Italian bees, he said too much against the blacks or natives. In 1877 I purchased 5 Italian queens, 4 of which I introduced successfully in my choicest colonies in the Centennial hive, to test their superiority before venturing to Italianize.

1st. Mr. Bangs states Italians are at work 2 hours earlier than blacks. He might as well say they work 4 hours later. It sounds about as reasonable.

2d. He says that blacks are always ready to attack man or beast, when the Italians do not pay any attention to them. I find no difference when passing through the apiary. Italians are somewhat more docile when handled with smoke, and find it very necessary to use smoke with both, unless you are fond of being stung.

3d. I would ask Mr. B., from which race he would prefer to extract honey? I have extracted from 5 colonies of blacks and got no stings, but while extracting from a colony of Italians, I have been stung 20 times. The Italian adhere to the combs more closely than the blacks.

4th. As to robbing, in my experience, the Italian will rob and not be robbed.

5th. For honey gathering I consider the blacks, under accurate test, superior. My Italians and blacks are of equal condition, but some native colonies stored 3 lbs. more per day than some Italians.

I agree with Jos. M. Brooks, in Aug. No. page 273; the drones should be uniformly marked like the queen and workers.

I have some colonies of hybrids which I think hard to excel. If I ever purchase any more queens, I want prolific hybrids or natives.

I have taken 2,415 lbs. from 25 colonies, of which 1,400 lbs. are extracted honey of superior quality. Am selling in Philadelphia quite rapidly at 25 cents per lb.

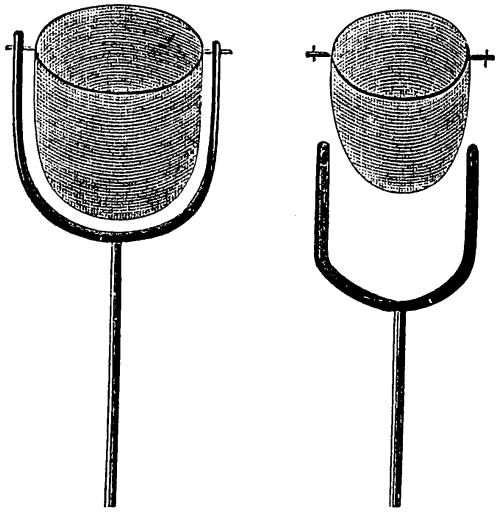
J. TALBERT WILLIAMSON.

Delaware Co., Pa.

For the American Bee Journal.

Improved Swarm Catcher.

To make it, take a bar of iron 1 inch wide and ¼ inch thick; drill a hole through each end; take a basket of the size desired—1½ bushel is the best size; fasten on each side



a lug, so that the basket will hang level, then hang it in the crane. If hung right, it will always hang with bottom down, no matter in what position the crane is. For the handle, take a strip of pine 1½ inches thick, and 3 inches wide; make the handle any length. I have taken swarms over 30 feet high. If made and hung right, it works well.

S. M. OLDHAM.

Reynoldsburg, Ohio.

For the American Bee Journal.

Will Queens Duplicate Themselves?

ALLEY TO THE FRONT.

We had concluded not to say any more upon this subject until it was fully settled, but as friend Alley has come to the front we may expect to get this matter fully settled, as our friend breeds from no others but from those that will duplicate themselves every time. Hence he keeps the very kind to foot the bill. This being a fact, you may be sure of receiving the queen in due season, and she will be under the test ere this.

STANDARD OF PURITY.

Friend Alley said he was interested in reading the articles under the above heading. That queens that will produce such wonderful results are remarkable queens "indeed," that his experience covers a period of 17 years, but he never had a queen come up to the standard of purity as pictured by several correspondents, &c. At present, we can form no idea what our friend Alley alludes to, we have no recollections of seeing or hearing of anything that seemed mysterious

except those described by our friend Alley, that duplicate themselves always in their queen progeny (?). He further remarks: "Friend Moon says he has no queens that will duplicate themselves." True, friend Alley. That statement was based upon our own experience of 16 years. During that time we have received queens from nearly every breeder in this country, even from friend Alley, and they were no more uniform in color than was the old lady's figure. Hence we inferred that no queens will duplicate themselves in their queen progeny every time. We should be sorry indeed to say that we had such queens, and upon a trial to have it found out they did not bear the recommendation given them! We certainly think they would be justified in saying, that we either were ignorent of what a queen was, or that we intended to deceive! While we do claim to breed as fine, and as pure queens as any one, we have none of those unvarying "princesses," neither do we think there is one in this country, judging from experience. The most uniform queen mother we ever knew, was one received from Dr. Larch, of Mo. One-half of her queens very strongly represented their mother queen. Her queens were a tan or light chestnut in color, and every good reliable and practical breeder, knows that these colors in queens are excellent; at least they are the colors that suit us. We have generally found their workers excellent.

TEST OF PURITY.

We cannot rely upon the color of a queen for a test of purity. Our only and safe dependence is upon the uniform markings of the workers. By this only can we judge of their purity. If they bear the 3 distinct yellow bands they are considered pure; they must be industrious, of good size, peaceable, hardy, prolific, &c. As to the color of the workers, we prefer a golden color. There are about three different shades of color in the worker bee—quite dark, medium and light yellow.

COLOR OF QUEENS.

When we penned that article as to queens duplicating themselves we were aware that we should get ourselves into hot water, and thought of a remark we once heard a nonsistent minister make. Said he, "I am going down to Flowerfield and will preach in the Methodist church, and it will be like taking a dog by the tail, and throwing him into a room with 40 cats—oh my, what a noise." So it has been with that article. Letters have reached me stating, they had queens that will duplicate themselves in their queen progeny every time, and friend Alley loomed up from old Massachusetts, and gave us to understand that he bred such queens by the hundreds, and that he breeds from no others.

IMPOSSIBLE.

Friend Alley says, like does not produce like in breeding bees, any more than in the breeding of any other animals. That all queens will not duplicate themselves every time is an established fact—the thing is "impossible." Now, if our friend is raising so many of these fine queens that he says "will" duplicate themselves every time, shall we, or shall we not understand him that the thing is impossible that he claims to be perfect in, viz: That his "queens will duplicate themselves every time." If this is a fact, all will then breed from such stock, but before saying much more upon this point, we will wait and see the result of the test.

POOR SEASON.

The present one has been one of the poorest ever known in this country for honey. The spr ng opened remarkably fine; bees swarmed early and often, but have made little surplus honey, and raised large amounts of brood. Reports from almost every portion of the state shows it to have been a poor season for honey.

Rome, Ga. A. F. MOON.

For the American Bee Journal.

Report from Doolittle's Apiary.

Spring opened very early, and our bees enjoyed the fine weather bringing in pollen quite freely as early as the 10th of March, which was a month earlier than usual. Brood-rearing went on rapidly, and by the 10th of May our hives were as well filled with brood and bees as they generally are the middle of June. At this time, apple trees opened with a profusion of blossoms, and our strongest colonies started queen-cells and made preparations for swarming. Our expections of a good honey yield from apple trees were great, for we were in need of honey just then, as our bees had consumed nearly all of their old stores, rearing such a large quantity of bees and brood. But, alas, human expectations are always liable to disappointment, and this proved no exception to the case. With the 12th of May came a cold storm, which lasted till the 15th, after which we had frost 6 nights in succession. The cold and frost spoiled all the flowers, and we were obliged to feed 1,500 lbs. to keep our bees from starving. White clover commenced to yield honey, sparingly, June 10th, and our bees were once more in the fields, so we could open hives, &c., without a million of robbers to beset us on every side. By this time, our bees were so reduced in numbers, that we were obliged to unite them down from 140 to 103, to get them strong enough to gather honey to the best advantage during the season. They made but little more than a living till basswood, which commenced to yield honey the 13th of July, and lasted till the night of the 22d, when our honey season came to an end for 1878. Our bees were in the best possible condition to take advantage of the harvest, and we think we never saw honey come in faster in our lives. Every available cell was full of honey, and the combs grew in the boxes as if by magic. The result of our season's work is as follows:

Box Honey	6,243
Extracted	1,070

This gives us an average of 71 lbs. to each old colony. Our best colony of bees gave us 161 lbs. Best extracted, 278 lbs. We have at present 194 colonies, but as some of them are rather light in stores, we shall double down to 150, as we always believe in making our bees self-supporting.

Although the honey season was poor, compared with last year, and the prospect is that prices for honey will rule low, still we have no reason to be discouraged. Our average yield per colony for the past 6 years has been 94 lbs. per year. As a person can attend to 100 colonies, this would give 9,400 lbs. a year, and even at the low price of 16 cents per lb., we would get $1,500 for a year's labor. Lest this statement should lead some to think that all they have to do is to buy 25 or 50 colonies to make a fortune, we will say that we work from early morn till late at night, averaging 15 hours work every day, the year round, Sundays excepted. We know of no business that a man can make profitable while simply folding his hands and sitting idly by. But a thorough knowledge of any business, and an untiring energy in the prosecution of it, will always result in success. G. M. DOOLITTLE.

Borodino, N. Y., Sept. 16, 1878.

For the American Bee Journal.

Standard of Purity.

Our friend Mahin asks, in the September JOURNAL: "How shall we know when Italian bees are pure?" I will ask our friend, If you have a queen that will duplicate herself in her queen progeny, and produces worker-bees that show distinctly (without being filled with honey) the three colored bands, and whose drones are as even and uniformly marked as are the workers, with 3 broad, colored bands, all other good qualities being present—industry, size, gentleness, etc.—I ask, Are such queens pure Italian? If yes, why? If they are impure, why? You will greatly oblige me by answering in the November JOURNAL.

You say: "Some of those who have written on this subject have recommended selecting those stocks to breed from that have well-marked drones," and say you don't think it safe to follow that advice, because the most beautiful drones you ever saw "were the progeny of a queen whose mother was black, and whose father was an Italian," etc. I am *one* of the some that gave such advice, and again repeat it, that to improve our bees as to purity, we must pay more attention to the drones; but *not* to breed to such drones as you describe, whose *mother* was a hybrid, being reared from a black queen. No, indeed; I had reference to drones whose mother was reared from a pure Italian mother.

I asked the question in the August JOURNAL, Why Italian queens do not, and why they should not, produce all uniform three-banded drones, instead of the mixed progeny they generally produce? They being the progeny of one queen, it seems to me they should all be alike and uniform in their markings. I ask the question again, and hope to hear something about it in the next JOURNAL.

The only acknowledged test for purity is that if a queen produces 3-banded workers she is pure. Some breeders even advise filling the bees with honey to make them show the 3 bands. This is almost as bad as the man that would catch his bees, and almost pull the poor things in two, to show you the third band was there. "Too thin for me."

Why not commence *further back* with the queen's *own* progeny, *the drones*, and see if they are all alike, and as uniform in their markings as is claimed the workers must be? Impregnation of the queen is claimed not to affect the drone progeny, which, if a fact, *would not* prevent her producing uniform drones, even should she mate with a black drone and produce hybrid workers. I do not believe the Dzierzon Theory, and never allow a mis-mated queen to rear drones in my apiary if I know it. To my disbelief I attribute my success in breeding and keeping my bees up to their present state of purity, by killing all such queens at once. I *know*, then, to a *certainty*, that I will have no further trouble by their rearing queens from their hybrid brood, as is sure to happen if the apiary is large, and worked for box honey and natural swarms. How often do we hear words like this from bee-keepers: "Yes, that queen mis-mated; she is such a fine-looking one, and her bees such good workers, that I *hate* to kill her; besides, you know, her *drones* will be pure anyway, so I have concluded to keep her?"

Now, such queens are just as apt to be superseded by their bees, or swarm unobserved by their keeper, and rear other queens from their own hybrid brood, as are his best queens. In case this should happen, and these hybrid queens mate with your best Italian drones, would it not be, sure enough, as friend Mahin says, "Even the most practiced eyes are liable to be deceived, judging by her workers."

My advice is, if you think the Italians are the best, and you want to keep them *strictly* pure, kill every mis-mated queen whenever you find one. You will then be on the safe side and have no risks to run. The above has been my practice from the first, and I find it the best, giving the least trouble in breeding, and keeping Italian bees in their purity. J. M. BROOKS.

Elizabethtown, Ind., Sept. 6, 1878.

For the American Bee Journal.

Apiaries in Henry Co., Ohio.

FRIEND NEWMAN:—While attending the Soldiers Reunion, at Napoleon, Henry Co., Ohio, on the 3rd inst., I had the pleasure of meeting several bee-keeping friends who reside in the vicinity, among whom was Col. Mann and D. Kepler, of Napoleon, and Capt. W. F. Williams, of Liberty Center. Presuming a short account of my trip would not come amiss to your readers, I will endeavor to be as brief as possible.

Under the guidance of Mr. Kepler, we stopped at Col. Mann's residence, situated on the banks of the Maumee river. Although near the center of town, it is one of the most pleasant places that could be selected for an apiary. The apiary has a southern exposure, with a gentle slope towards the river, and consists of probably 50 colonies. Owing to the absence of the Colonel, I had no opportunity of learning of his success during the season.

Friend Kepler's apiary, numbering about 60 colonies, is located in the north-west part of town. Being anxious to see her majesty

—the queen—imported from Italy through Friends Newman, of the JOURNAL, we hastened to the apiary. Of course queens are nearly all alike; but it was not until then my good fortune to see a queen deposit eggs in an open frame, exposed to the bright sunlight, while being carried away from the hive at least 50 yards. The workers in the meantime were as quiet as could be wished for. After examining several other hives which were in fine condition, we adjourned to the house.

Next morning friend Kepler and myself started for Capt. Williams', whose farm is 4½ miles east of Napoleon and 2½ miles west of Liberty Center.

The bee-yard contained about 150 colonies only, 30 having been removed to a location 6 miles north-west, making in all 180. After much trouble, friend Williams has, during the last 5 years, succeeded in Italianizing all the bees within a radius of 3 miles. In several instances he furnished queens to persons indisposed to Italianize. He claims to have as pure a strain of Italian bees as can be found any where in the state; and from what I have seen during a 5 hours' stay I think he has. His imported queen is from Charles Dadant, of Hamilton, Ill., and her progeny does her credit—possessing the 3 spots on the backs spoken of in relation to the queen received from Rev. Salisbury in Sept. No. of JOURNAL. Friend Williams, in queen-rearing, endeavors to improve with each generation and has the following points in view in breeding, viz: First. Prolificness; Second. Industry; Third. Temper; Fourth. Color.

And judging from the heavy colonies in the yard, the constant stream of bees passing in and out, and the entire absence of "Bingham's addition to the apiary," so much in use among bee-keepers, I for one would be willing to sacrifice the clear buff color in a queen, could I have as evenly tempered bees as I saw at Capt. Williams'.

And now, Mr. Editor, as the mission of bee Journals is, as I understand, to improve our knowledge in bee-culture by an interchange of ideas, and as I have been a reader of some of the leading bee papers for a couple of years and saw nothing from the above source, would it not be a good idea to call friend W. out, as he is a subscriber to your JOURNAL. I don't anticipate he will refuse; and as he is a close observer and sound reasoner, as well as a successful bee-keeper, we may profit by his remarks on queen-rearing.

At dinner I had the pleasure of sampling various preserves, jellies and cake sweetened entirely with honey. The jelly, which was of crab-apple, was just as clear as if made of the best granulated sugar, proving the fact that honey will in a great measure take the place of sugar for the various household uses. After dinner an hour or two was spent in comparing notes and relating bee-keeping experiences, when the time of departure drew near and after a cordial hand shaking all round, and a brisk walk of 2½ miles I took the afternoon train for Toledo, enjoying a pleasant ride, and observing acres upon acres of boneset now in full bloom, and yellow patches of golden rod just budding out, which with the white clover and basswood in season makes north-western Ohio, second to none in point of honey production. A few miles outside the city the apiaries of B. O. Everett and L. P. Christiancy come in plain view, the newly painted hives, to the number of nearly 200, showing off to good advantage from the train. A few minutes more and our destination is reached, and our double holiday is one of the things that were, only to be remembered with pleasure.

JNO. Y. DETWILER.

Toledo, Ohio, Sept. 5, 1878.

For the American Bee Journal.

Chips from Sweet Home.

As each one of us cannot visit all the apiaries we might wish, I will give you a description of a few.

I had the pleasure of calling on J. H. Nellis, of Canajoharie, N. Y. He has certainly one of the most picturesque locations in the United States. He is about 2 miles from Canajoharie, on a high bluff of the Mohawk Valley. In sight of his apiary is the Mohawk river, a canal with a small village nestled in the side of the bluff, and over on the far side of the valley may be seen more than one train of cars per hour. He has a house apiary which holds about 50 hives. He told me that for queen rearing he would prefer the house to out-doors; but for surplus honey, he would take out-doors. They were putting their bees in the cellar while I was there. J. H. is very finely fixed for queen-rearing of which he makes a specialty. They have a shop, horse-power, saws, etc., for making bee hives, honey boxes, etc. Also, a printing press—in fact, he is well fixed for the business. Long and pleasantly we shall remember our short call with J. H. Nellis.

Sweet Home Apiary is located 12 miles south of Muscatine, and 8 miles north of New Boston, on a steppe of the bluff, being 4 miles from the Mississippi. These 4 miles being the Mississippi bottom, gives us willow bloom in spring, and from Aug. 20, till frost a supply of golden rod honey. Sweet Home Apiary (Sept. 5,) consists of 300 hives, which you may think is overstocking, but as long as we can make the average more per hive than smaller apiaries in as good location, we will not think we are overstocking. We use the double-portico Langstroth hive, and are using the prize box. Sweet Home consists of only 10 acres, being run for fruit of various kinds. The hives of the apiary run in rows north and south, east and west, being 6 feet from center to center, giving me room to run a wheel-barrow between the rows each way. Each hive has its slate hung on the front right hand corner, so that whenever I am operating a hive, I always open on this side, and here's my register at my left hand.

North of Sweet Home, within 1½ miles, are 2 apiaries of 200 hives. South of me 1 mile, is another apiary of 50 hives, and 4 miles further south is the apiary of L. H. Scudder consisting of between 200 and 300 Langstroth hives, situated in an apple orchard. Sandburrs, peppers and bee-stings

make that a warm place. About 9 miles south of this we halt at Wirt's apiary, in Keithsburg; here we find about 100 hives, all Langstroth, surrounding his honey-house. His swarming was conducted in this wise; there being no trees near his apiary, he took some old gooseberry bushes and placed them on poles about 6 to 10 feet high; on these his bees always settled fully one-half settling on one pole. These poles were dropped in a hole in the ground and when the swarm had settled, he carried pole and bush to his hive.

Six miles east of this we find an apiary of 250 Langstroth hives, belonging to Dr. N. H. Derr.

About 8 miles from Keithsburg, and 4 miles north of Oquawka, we find the bee ranch of N. L. Jarvis, 150 hives, Banta & Kellogg.

The order and arrangement of Kellogg's apiary, shop and tools are fully commendable, everything in its place; tools bright and in condition for use. In fact, everything is stamped with neatness and precision. In this apiary there are about 100 hives.

To the north of this are 2 more apiaries belonging to Dickie & Hollingsworth, numbering perhaps 200 hives.

To sum up, we have near us 10 apiaries, numbering in all about 1,500 colonies. In the year of 1877, 79 members of Western Illinois and Eastern Iowa owned 3,980 colonies of bees, from which they got 144,000 lbs. of honey. Can any other convention beat that?

D. D. PALMER.

For the American Bee Journal.

Adulteration of Sweets.

"Behold, I give unto you power to tread on serpents and scorpions, and over all the power of the enemy; and nothing shall by any means hurt you."—Luke 10: 19.

Such is the answer that Mr. A. I. Root, under the date of Sept. 1st, made to the articles criticising his course in the AMERICAN BEE JOURNAL for September.

Still he deigned to descend from his pedestal to briefly answer my article on Adulteration of Sweets, in this language:

"Because I have declined an article on the adulteration of honey, it has been intimated that I did it from selfish motives. I do not believe in 'writing up' or 'down' a thing, nor have I much faith in petitions to Congress, or legislation; but I do believe in letting people exercise their own good, common sense, and letting demand and supply regulate disputed questions. I have never bought or sold a pound of glucose in my life; but I have sold a great many tons of grape sugar for feeding bees, to incite brood-rearing. Grape sugar cannot be mixed with honey, either in the hive or out of it, by any way that I know of, on account of its propensity to solidify and separate. My profits are a quarter of a cent a pound.

"In regard to what shall or shall not be published in *Gleanings*, it seems to me you have chosen me to be the one to decide; I am always glad of suggestions, but inasmuch as we have, all the time, a great deal more *good* matter than can possibly be used, I do not see how I can always accommodate all of you."

In this answer, Mr. Root mistakes the facts. It is *not* because he declined an article on adulteration of honey, but because he declined at least three letters and the petition, and especially because he continues to extol glucose, knowing, as well as I do, that sugar is cheaper and more wholesome to feed bees.

In a letter Mr. Root had promised to help me in fighting adulteration. Why did he refuse his co-operation, after receiving the petition? Because I stated in this petition just what glucose was! I dare Mr. Root to point out another motive.

Mr. Root does not believe in "writing up" or "down" anything, and yet he was the one to decide what was fit to be published. To my mind, an editor should be like a judge, having the strict duty of putting before the people both sides of a disputed question, especially when it is an important one. A judge or an editor who acts differently, is not an impartial one; I will say more, is not an honest man, whatever be his claims to bigotry or Christianity.

Mr. Root has never sold a pound of liquid glucose. But he has prepared the way to sell it by tons, by intimating that basswood honey is better when mixed with glucose, and that no chemist would be able to detect the adulteration. It is true that he adds that such mixture would be dishonest. Imagine a father telling his sons that there are riper watermelons in the garden of our neighbor; you could help yourself easily without being detected; but don't go, for it would be dishonest? What would be the result? The boys would steal the watermelons! Mr. Root acts like that father, and anticipates a good sale of glucose to mix with the crop of honey! He cannot be responsible. Oh! no! Did he not tell his readers that this adulteration would be dishonest?

Mr. Root, who believes in miracles, does not believe in science, since he imagines that scientists cannot detect adulteration. He does not believe in legislation; but he believes in letting people exercise their common sense, leaving demand and supply to regulate disputed questions.

Every adulterator would endorse these views, and become rich before the question of adulterated honey could be fixed. In nearly all the civilized nations of the world—in England, France, Germany, etc.—there are public officers to examine all the articles of food offered to the people. Why? Because nobody would be able to detect all the frauds. For years, glucosed honey flooded our market, hindering the sale of the pure article. What good did, in this case, the system of letting the demand regulate the supply? None; for the adulterated article is every year more and more freely offered. Some of this adulterated article was exported to England. Immediately it was detected; the grocer of Glasgow, who had sold it, was fined, and the American dealers hastened to remove their spurious article, not only from England, but from France, and this unlawful business was nipped in the bud on the European continent. As legislation only could do that, let us have legislation.

"*Gleanings* has too many good things to use all." Yes; we find in *Gleanings* a great many letters praising the goods sent by the editor, together with some accounts of a boy who returned drunk, of another who swears, etc. But of what importance is the adulteration of honey to us bee-keepers, when compared with such interesting facts? Was it not enough for the readers of *Gleanings* to know that what was said against glucose, was but sensational

reports? Mr. Root proclaimed the qualities of glucose, and that was enough!!

Is not selling solid glucose under the name of grape sugar, and refusing to publish the truth about it, a kind of swindle? The so-called grape-sugar, such as is offered here, is a far poorer article than liquid glucose. In France, solid glucose is obtained by evaporating liquid glucose. Here it is obtained by putting in it a greater quantity of chalk, and the vendors of that compound, under the name of "grape sugar" (Mr. Root included), should be published as swindlers and humbugs in *Gleanings!*

I was one of the six who remonstrated against introducing religion in a newspaper. Like Mr. D. D. Palmer, I would be glad to have my letters published in *Gleanings*. As the editor of that paper insulted all the free-thinkers, by saying that there can be no honesty where there is no faith in the Bible, I will examine the motives of his conversion. I find them related in *Gleanings* for August, page 273:

"Several years ago, a very intelligent bee-keeper paid me a visit of several days. At the time I was not a believer in the Bible, or at least I claimed that I was not, and he seemed to rejoice when he had discovered the fact. If I recollect aright, he made the remark that the greater part of our number were skeptics; that Mr. A did not believe in religion, and worked his bees on Sundays, also Mr. B, and C, and D, and E; that Mr, F. was spiritualist, Mr. H something else, and so on. I remember a little feeling of pain at this, for lightly as I was in the habit of speaking of the Bible, I could not help feeling a slight shudder. Would he, while visiting other bee-keepers, say of me: Yes; and Novice, too, does not believe in Bibles, and churches, and Sunday-schools; but says it is an old piece of superstition, and it is high time that it was all done away with, and reckoned amongst the things of the past. It is true, my friends, I was fond of saying just those words....."

Mr. Root has always one eye to business. He shuddered at the idea of being known by bee-keepers as a free-thinker! What would become of the metal corners, the Simplicity hive and *Gleanings?* It was just to avoid so great a danger. To make a parade of a miraculous conversion was not enough; was it not necessary to accuse of dishonesty all the unbelievers in the Bible? This new departure having proved a good investment, our new saint boasts, every month, more and more of his religion and of his good deeds, and pockets the money beside!

I began my article with a quotation from the Bible; I will terminate it with another:

"Therefore, when thou doest thine alms, do not sound a trumpet before thee, as do the hypocrites in the synagogues and in the streets, that they may have glory of men! When thou prayest, thou shalt not be as the hypocrites are; for they love to pray standing in the synagogues and in the corners of the streets, that they may be seen of men."—Matt. 6: 2, 5.

CHAS. DADANT.
Hamilton, Ill.

P. S.—I have yet on hand a few hundred copies of the petition that I would be glad to send to send to parties, to have them signed.

CH. D.

☞ The Sorrento Saw for attaching to any sewing machine, advertised in another column, is a nice thing, and may be seen in our Museum.

For the American Bee Journal.

Why is It?

We have just returned from a trip to the St. Louis Exposition, one of the best, if not *the* best Exposition held in the West.

While there we looked around carefully for a display in the apiarian line, but not a thing to be seen in that way, nor a bee or bee hive, nor a single ounce of honey. We could but inquire of ourselves, why is it? We speak of honey markets but what effort is or has been made to work up a Western market. None that we know of, save friend Muth, of Cincinnati.

Sorry that we cannot attend the National Convention this season, but other engagements prevent.

W. J. ANDREWS.
Columbia, Tenn., Sept. 17, 1878.

For the American Bee Journal.

A Curious Incident.

In Italianizing, I placed a small colony, with queen cell, on a strong colony that I wanted to change queens with, with wire cloth between, expecting after the young queen was fertilized to remove the old queen and let them all go together, but she was lost in going out to meet the drone, and so made a strong colony of the upper one, letting them raise a queen, and took them off. After the time had passed by for the young queen to hatch, I found that the young queen, on returning from her wedding trip, had gone into the lower hive, and being of the same scent, had passed unnoticed, met and killed the old one (which was clipped) and remained in that hive. May we not get a hint from this incident so as to make the changing of queens more easy? You may set me down a strong disbeliever in the Dzierzon theory, in regard to drones being pure from a queen that has met an impure drone.

S. S. BUTLER, M. D.
San Jose, Cal., Sept. 4, 1878.

For the American Bee Journal.

Wire for Foundation, Extractor, &c.

When I wrote the article for the July number on "Wire for Foundation," I described bedding the wire in the foundation by placing in the sun and pressing the wire in with a gum roller. I have now got something better and cheaper. Make a wheel of wood 1½ inches in diameter, ½ inch thick; place in this oval tin cogs, ½ inch apart and ⅜ deep; set this wheel in a socket, and you are ready for work. Fasten the wires to foundation as described in the July number; wet a board to fit the frame; place the foundation on this with wires on the upper side; then run the wheel over the wire, just hard enough to bed the wire into the foundation. The wire should be fine, so that it will cut into the foundation, and if it should be a little loose in the frames this wheel will kink it, so that it will work all right. Coarse wire will not bed well, and is a detriment to brood-rearing, as the queen will skip the cells it passes through; but the fine wire

rests on the bottom of the cells, and the queen appears not to notice it. Where the extractor is used, I think this wiring comb is a great invention. I have tested the extractor, by the side of comb honey, for five years, and I can make one-half more money with the extractor, even if I should sell for half the price! This year I ran 33 colonies with the extractor, that made me 6,000 lbs. I divided the 1st of August, and made 65 from 33! The rest I ran to comb; they averaged 78 lbs. of surplus, and were not increased; are not as strong now as my others. I can sell more extracted at 10c. than sections at 15c. The colonies I can sell at $8; this gives me, after paying for foundation, hives and sections, $24.25 per colony for the extracted, and $10 for the comb.

D. S. GIVEN.

Hooperston, Ill., Sept. 20, 1878.

For the American Bee Journal.

Does Pure Honey always Candy?

I have some beautiful extracted honey, taken from the combs the 10th of July, that at this date, Sept. 24th, shows no signs of graining. As regards color, quality and consistency, my patrons think it gilt-edged—at any rate, they pay me a gilt-edged price for it. Now, would it be safe to sell this honey, or simply expose it for sale, in case Dadant's national adulteration law was in operation? For does not Dadant claim that all *pure* honey candies, "sooner or later?" It may be, however, that this honey does not belong to the "sooner" classification. How is this, friend Dadant?

St. Charles, Ill. M. M. BALDRIDGE.

For the American Bee Journal.

Honey, &c. at the Tri-State Fair.

The following is a complete list of apiarian products and supplies, exhibited at the Tri-State Fair, held at Toledo, O., during the week ending Sept. 21st, 1878.

Messrs. Riegle & Boldosier, of Adelphia, Ross Co. O., exhibited samples of box honey, which took first premium at the state fair at Columbus, the week previous; also, the combination hive, bee feeder, smoker, single frame nuclei, &c.

Geo. Wilson & Son of Toledo, O., had on exhibition 10 different styles of Langstroth Hives, ranging in price from $1.00 to $2.00 each; also, sections, shipping crates, &c.

B. O. Everett exhibited fine samples of extracted clover and buckwheat honey. Also, honey extractors, Bingham's smoker, Muth's, Scofield's and Novice's honey knives.

H. J. Winters exhibited an observation hive, which attracted much attention from its superior workmanship; also, comb honey in sections.

Jno. Y. Detwiler of Toledo, O., exhibited 1 doz. each, of 1 and 2 lb. honey jars, which attracted much attention; also, a half barrel extracted clover honey, all of which was harvested in the heart of the city of Toledo.

It is to be regretted that the managers of the fair did not offer premiums outside of fruits, vegetables and the races, or I should no doubt have had the pleasure of reporting a larger exhibit. As it was, the honey exhibit seems to have been overlooked. For not until Friday evening, and then only upon personal application to the superintendent by the writer, was a committee appointed to examine the display, and enter it in the report of the association. I. O. U.

Toledo, O., Sept, 23, 1878.

For the American Bee Journal.

Bees Kill A Horse.

A rather singular freak among the bees took place here last Tuesday, resulting in the death of a fine horse. It appears the horse in drawing a load of lime, for use in a new building adjoining the yard where 11 colonies of bees stood, became much heated and was left standing outside the fence, about 12 feet from the bees, suddenly several were noticed about his head, and in less than half a minute, such a scene was never before witnessed; every colony seemed infuriated; all rushed at the horse until his head, neck and body could scarcely be seen. The poor animal could not be moved from the spot; some heroic men covered their faces, a woman led the party, by tying a veil over her hat, and with a broom and a bucket of water pitched at them, then the men followed. The head of the horse was covered several inches thick with them; they continued to throw on buckets of water and scrape off the bees by the quart. Finally they got the harness off, and dragged him away, but the poor animal died that night, in great agony.

W. B. BAKER, M, D.

Bristol, Pa., Sept. 2, 1878.

What shall the Decision be?

"Bees have not done well here this season; they wintered well. The season opened about a month earlier than usual. They did well through March and April, but May set in wet and cold, just as white clover was coming into bloom and continued so through white clover bloom; and the consequence is our honey crop is short, not over one-third of a crop. I have been reading with considerable interest the discussion now going on in the JOURNAL, in regard to the purity of Italian bees. It seems to me that those that have expressed themselves through the JOURNAL, differ widely as to what constitutes pure Italian bees. From my observation and experience I have arrived at the conclusion, that a queen that will uniformly produce three-banded workers and produce young queens that when fertilized by Italian drones, will produce three-banded workers without any exceptions, I think pure Itialian, and after they get through this discussion, I think that will be about the points that will be settled upon as fixing the standard of purity of Italian bees.

H. D. EDWARDS.

Delhi, Jersey Co. Ill., Sept. 10, 1878.

STATISTICAL TABLE — FALL OF 1878.

NAME.	LOCATION. County and State.	No. of Colonies Fall of 1877.	No. of Colonies Spring of 1878.	No. of Colonies Fall of 1878.	No. Wintered out-doors.	No. Wintered in-doors.	No. Wintered packed in chaff	Comb Honey.	Ext'd Honey.	Beeswax.
Aikin, R. C.....	Page Co., Iowa	19	19	28	....	19	....	150	935	10
Allen, L.	Clark, Wis.....	....	2	8	....	....	....	30	....	1
Allen, J. W.....	Lenawee, Mich....	50	15	44	50	....	7	530	....	....
Andrews, C. L.....	Point Coupee, La..	12	12	28	12	....	....	....	*200	10
Angell, J. L.....	Cortland, N. Y.....	....	1	4	....	....	....	60	....	....
Aubert, J. L	Coles, Ill.....	15	14	20	14	....	....	450	....	....
Anderson, J. L....	McHenry, Ill.....	84	83	143	....	84	....	2000	....	....
Aylor, R. L.....	Boone, Ky.....	7	6	13	6	....	6	28	380	....
Baker, Ransom....	LaSalle, Ill.....	9	7	24	9	....	....	*300	....	8
Barnard, A. J.....	LaPorte, Ind	60	60	98	60	....	....	1228	1215	9
Bartgis, David	Chautauqua, Kan..	8	8	20	8	....	8	....	825	....
Barnett, J. C	Champaign, O.....	2	†3	8	2	....	2	115	....	....
Bauernfeind, J....	Winnebago, Wis...	43	40	82	....	43	....	....	2500	10
Barnard, R. C.....	St. Joseph, Mich...	2	2	7	2	....	....	292	....	1
Becktell, R. S.....	Berrien, Mich.....	100	100	200	100	....	....	800	800	13
Bence & Son.....	Jefferson, Ky.....	76	76	94	76	....	45	700	5800	....
Botsford, A. E.....	Delaware, Iowa....	61	51	136	12	39	4	240	3000	25
Bonnewell, A. T...	Ozaukee, Wis.....	108	107	150	....	108	....	....	6500	100
Bourgmeyer, John	Fond du Lac, Wis.	21	....	†16	....	21	...	....	200	15
Brown, G. W.....	Cook, Ill.....	12	11	27	12	....	....	500	340	5
Brothers, Mary....	Putnam, Ind.....	10	10	29	7	....	3	2175	....	....
Brewer, Joel	Wabash, Ind.....	20	19	30	19	....	....	744	....	....
Brown, J. E.....	Leavenworth, Kan.	7	7	14	7	....	....	40	100	....
Brumme, Carl	Wayne, Mich.....	36	28	35	28	....	....	500	180	20
Bradley, H. M.....	Bay, Mich.....	27	19	77	....	19	....	400	1887	76
Brown, Zadock....	Schoharie, N. Y...	33	32	41	33	....	22	2250	....	....
Butler, S. S.....	Santa Clara, Cal...	20	20	40	20	....	....	....	2810	20
Bull, T. S.....	Porter, Ind.....	140	125	180	10	130	....	600	5800	80
Brundridge, T. W.	Baltimore, Md.....	8	8	13	8	....	....	300	....	....
Bupp, J. H.....	York, Pa.....	27	26	32	27	....	3	237	262	10
Burt, C. S.....	Cuyahoga, O.....	27	27	50	2	25	2	1100	900	50
Camm, Wm.....	Scott, Ill.....	13	7	22	13	....	....	1000	....	....
Cooley, O. E.....	Winnesheik, Iowa.	43	43	80	....	43	....	400	450	10
Crawford, C. C....	Kane, Ill.....	50	25	69	....	50	...	....	1000	10
Christ, H.....	Stark, O.....	11	11	18	11	....	11	540	....	3
Cullen, F.....	Onondaga, N. Y...	30	29	60	30	....	30	1420	225	15
Davis, Mark.....	DuPage, Ill	9	7	13	7	....	....	....	$80	5
Davis, Nathan	Lyon, Kan.....	8	6	23	8	....	....	40	....	....
Davis, W. J.....	Warren, Pa.....	154	153	230	....	154	....	3200	350	....
Day, Levi E.....	Dakota, Minn.....	51	51	§56	...	51	....	160	1750	6
Devol, N. B.....	Clark, Ill.....	16	16	42	16	....	16	200	180	4
Dick, Jno. W.....	Benton, Mo.....	72	64	92	64	....	....	410	2930	30
Dines, J. B.	St. Francois, Mo...	32	32	64	32	....	10	No acc't kept		
Dickinson, C, J ...	Chenango, N.Y....	56	52	81	7	49	7	2399	399	26
Dipman, Jno. F...	Sandusky, O.....	44	42	65	40	....	4	420	2400	56
Drane, E.....	Henry, Ky.....	53	50	80	24	29	3	900	1900	45
Dunham, Mrs. F...	Brown, Wis.....	25	24	42	...	25	....	300	500	10
Edwards, H. D....	Jersey, Ill..... .	15	15	27	15	....	15	315	125	3
Edwards, Edwin S	Onondaga, N. Y...	34	30	65	6	24	6	600	....	20
Eggleston & Co....	Macon, Mo.....	2	2	18	2	....	....	200	1000	....
Eikenberry E.....	Butler, Iowa.....	46	44	68	....	46	....	600	1950	14
Everett, Wm. P...	Macomb, Mich.....	79	23	52	....	79	....	....	4224	60
Fisher, A. J.....	Columbiana, O.....	45	40	90	45	....	....	1000	....	....
Field, Silas.....	Franklin, Mass....	10	8	14	5	3	....	40	....	....
Fletcher, W. H....	Benton, Minn.....	37	37	53	....	37	....	825	225	....
Forsyth, R.....	Lenawee, Mich....	64	†76	141	....	64	...	4500	720	12
France, Edwin....	Grant, Wis.....	100	97	160	97	....	97	1000	5120	80
Fritze, Wm.....	St. Louis, Minn....	4	4	11	....	4	....	72	242	....
Franklin, B.....	Schoharie, N. Y...	114	109	117	27	87	15	3500	800	40
Freeman, G. M....	Adams, O.....	90	70	100	70	....	....	2500	1000	20
Funk, H. W.....	McLean, Ill	9	9	23	9	....	9	500	200	....
Fullilove, J. H	Boone, Ky	68	68	§163	68	....	....	800	344	....
Garlick, Geo.....	Peterboro, Ont....	90	83	104	90	....	....	225	915	10
Glazier, C. E.....	Jefferson, N. Y....	22	§21	50	....	22	....	500	....	....
Godfrey, E. D.....	Montgomery, Iowa	28	23	92	28	....	....	500	....	10
Grout, Wm. H. S..	Chautauqua, N. Y.	51	36	70	51	....	51	50	5100	100

Name.	Location. County and State.	No. of Colonies Fall of 1877.	No. of Colonies Spring of 1878.	No. of Colonies Fall of 1878.	No. Wintered out-doors.	No. Wintered in-doors.	No. Wintered packed in chaff	Comb Honey.	Ext'd Honey.	Beeswax.
Green, W. H.....	Piscatequis, Me....	3	3	7	2	1	....	No acc't kept		
Gray, J. L	Lee,Ill..... ...	65	65	120	....	65	....	1999	2222	10
Gustin, A.....	Platt, Mo.....	4	4	11	4	....	4	....	1080	....
Hall, D. M.‡.....	Rock, Wis.....	155	150	185	3	152	....	50	5000	100
Hamilton, Hugh ..	Coldwater, Mo	150	140	174	....	152	....	....	3999	25
Harding, W. D. C.	Clark, Wis.....	....	11	8	....	....	....	52	545	22
Harper, James	Ingham, Mich.....	117	§65	104	21	44	21	800	....	15
Hawley, Geo. M ..	Lancaster, Neb ...	108	102	177	1	107	....	599	1202	25
Harrison, R. W....	Rockingham, Va..	53	47	80	53	....	....	2000	....	....
Happe, F. W.....	Schoharie, N. Y...	20	20	28	10	10	10	1200	....	....
Hartwell & Berkly	Lee, Ill.....	25	25	60	25	....	....	350	200	....
Heckman, H. G....	St. Joseph, Mich...	7	7	18	7	....	....	....	800	6
Hershey, E.....	Lancaster, Pa.....	40	§38	26	40	....	....	450	....	15
Hixson, Wm.....	Montgomery, Ind..	11	11	30	11	....	....	700	450	....
Hill, V. F.....	Clark, Mo.....	7	7	15	7	....	....	70	....	....
Horton, W. A.....	Miami, Ind.....	51	44	50	51	....	....	525	....	18
Hollman, J. M.....	Fayette, Ky.....	22	21	35	22	....	....	600	200	....
Howlett, W. H. H.	Boone, Ky.....	33	33	78	33	....	33	2000	....	12
Hollman, N. H....	Barren, Ky.....	19	19	35	19	....	....	125	650	10
Hubbard, C. S.....	Ogle, Ill.....	32	17	40	6	26	....	514	773	19
Hunt, C. H.....	Winnebago, Ill....	10	9	24	. ..	10	....	100	....	....
Hunter, J. E.....	Jones, Iowa.....	68	68	110	1	67	1	2000	400	....
Hunt, Wm.....	Linn, Iowa	220	216	250	...	220	....	2600	11400	100
Jewett, S. L.....	Cooper, Mo.....	28	28	38	28	....	....	500	....	....
Jones, Mrs. W. S...	Schoharie, N. Y...	13	13	23	....	13	....	425	....	....
Jones, Joseph.....	Center, Pa.....	19	16	20	2	17	....	75	84	....
Jordan, Mrs. M. C.	Linn, Iowa	15	15	28	....	15	....	350	....	15
Kauffman, D.....	Moultrie, Ill.....	10	10	20	10	....	....	300	50	2
Keyes, E. H.....	Jasper, Iowa	60	60	90	60	....	60	No acc't kept		
King, T. F.....	Cumberland, Pa...	14	13	50	14	....	14	85	1350	20
Knowl, D. K.....	Jay. Ind.....	5	†7	18	5	....	....	100	40	....
Knowles, Jas.....	Beaver, Pa.....	30	30	44	30	....	30	900	....	1
Lamontague, I. B.	Quebec, Can.....	4	6	10	....	10	....	150	....	5
Lane, D. P.....	Rock, Wis.....	121	97	146	....	97	....	3000	....	....
Lantz, L. Z..... ..	Logan, O.....	18	18	26	18	....	....	60	450	5
Larch, E. C. L.....	Boone, Mo.....	130	130	130	....	130	....	....	15000	....
Leonard, L. D.....	Fond du Lac, Wis.	14	14	33	....	14	....	70	700	10
Link, Dock.....	Sumner, Tenn.....	24	24	37	24	....	24	....	700	....
Link, Jacob.....	Sumner, Tenn	9	9	14	9	...	9	....	300	....
Lisk, H. B.....	Shelby, Ind.....	27	25	47	18	7	....	100	700	15
Lindsly, L., Jr....	Point Coupee, La..	196	171	300	....	....	....	....	10500	....
Liston, E.....	Cedar, Mo.....	85	84	87	84	....	....	No acc't kept		
Lloyd, J. E.....	Cortland, N. Y.....	73	64	106	73	....	....	3350	250	31
Lloyd, T. D.....	Winnebago, Wis...	9	7	29	....	9	....	300	....	....
Loehr, M. E.....	Kosciusko, Ind....	27	27	34	....	27	....	500	100	10
Long, Geo. W.....	Wayne, Mich.....	3	†4	11	3	....	3	255	70	5
Lytle, W. D. F....	Fayette, Ky.....	8	7	13	7	....	....	50	200	3
Marsh, C. A... ...	Windsor, Vt.....	24	24	30	....	24	....	1600	40	10
Marsh, S. K.....	Ionia, Mich.....	75	70	84	...	70	....	1936	2264	....
Martin, J. H.....	Washington, N. Y.	107	100	115	3	104	3	1100	9000	25
Mason, M. E.....	Ashtabula, O.....	28	28	64	28	....	....	1200	150	10
Mead, J. C.....	Lee, Ill..... ...	23	§13	33	23	....	23	200	....	....
McIntyre, Jos.....	Fannin, Texas.....	30	26	35	26	....	....	400	150	....
McQueen, C.....	Tuscarawas, O.....	15	§19	36	15	....	15	500	975	20
Maclin, W. T.	Crockett, Tenn ...	12	8	18	8	....	....	150	....	....
McNitt, E.....	Franklin, O.....	39	35	52	39	....	39	1420	480	....
Milster, M. H.....	Perry, Mo.....	42	41	51	42	....	....	100	1700	....
Minchin, S.....	Cayuga, N. Y.....	13	11	28	13	....	....	375	30	15
Moore, J. E.....	Genesee, N. Y.....	82	62	116	82	....	82	4000	....	34
Monchee, Miss B..	Louisa, Iowa.....	4	4	9	....	4	....	122	114	5
Morrow & Cassell.	Rock Island, Ill....	15	11	31	15	....	....	No acc't kept		
Mumaw, J. W.....	DeWitt, Ill.....	5	5	12	5	....	....	135	193	....
Murray, J. B.....	Harden. O.....	60	59	125	59	....	....	1000	3000	10
Newman, J. C.....	Wyoming, N. Y...	63	§55	103	63	....	20	7000	....	50
Oatman & Co., J..	Kane, Ill	185	§175	§260	....	185	....	7499	499	150
Oldham, S. M.....	Franklin, O.....	9	7	25	7	2	....	150	....	5
Owen, I. D.....	Buchanan, Iowa...	10	10	25	....	10	....	317	....	....
Parent, J. I.....	Saratoga, N. Y.....	93	73	101	32	61	32	3411	1656	35

NAME.	LOCATION. County and State.	No. of Colonies Fall of 1877.	No. of Colonies Spring of 1878.	No. of Colonies Fall of 1878.	No. Wintered out-doors.	No. Wintered in-doors.	No. Wintered packed in chaff	Comb Honey.	Ext'd Honey.	Beeswax.
Palmer, D. D.....	Mercer, Ill.....	205	196	250	....	205	....	5300	3400	105
Peck, D. J	Susquehanna, Pa..	54	53	71	....	54	....	2399	....	20
Pelham, J. E	Tioga, N. Y.....	28	26	56	4	24	4	1175	50	5
Pelon, Martin	Ottawa, Mich.....	38	35	45	38	....	....	1500	300	....
Perry, Fayette	Kane, Ill.....	19	18	42	....	19	....	65	1200	13
Pickup, E.....	Bureau, Ill.....	18	18	48	18	....	....	840	....	....
Pierson, N. H.....	Stark, Ill.....	8	8	26	5	....	....	200	....	....
Pierce, Warren....	Portage, O.....	40	38	46	37	3	12	1999	....	10
Pike, Edwin.....	Grant, Wis.....	77	76	92	....	77	...	80	1480	6
Poppleton, O. O...	Chickasaw, Iowa..	57	57	123	....	....	57	200	3400	20
Pratt, B. F.....	Lee, Ill.....	6	10	20	6	....	6	100	828	10
Quick, S.....	Montgomery, Ind..	8	8	24	8	....	....	....	335	....
Ralston, James....	Benton, Iowa.....	13	13	20	....	13	....	250	350	7
Rofkar, H.....	Ottawa, O.....	18	17	33	18	....	18	200	600	....
Rogers, Clark.....	Allegany, N. Y....	112	98	162	3	95	....	3100	200	....
Roop, H. F.....	Franklin, Mass....	13	12	18	13	....	....	No acc't kept		
Sawyer, O. L.....	Kennebeck, Me....	61	53	89	1	60	....	500	....	20
Scudder, L. H	Mercer, Ill.....	125	117	200	....	124	1	2500	100	15
Scheerer, Jno.....	Platt, Mo.....	9	9	27	9	....	9	....	2200	....
Scovell, H.....	Cherokee, Kan.....	113	113	175	113	....	....	....	1000	....
Sharp, M. T.....	Henderson, Ill.....	103	98	127	6	97	....	1200	925	60
Shaffer, N. M.....	Dubuque, Iowa....	....	1	3	....	....	....	....	175	2
Simon, Chas	Noble, Ind	7	6	16	6	....	....	150	00	7
Smith, Jno. H	Crockett, Tenn ...	10	10	20	10	....	....	499	499	10
Simpkins, A. B....	Schoharie, N. Y...	40	39	50	40	....	....	2000	....	....
Smith, C. T..... ..	St. Clair, Ill.....	74	65	75	14	....	....	5	10	16
Snyder & Son	Albany, N. Y.....	120	110	150	20	100	....	2000	....	30
Snider, G. W. D...	Spencer, Ky.....	40	40	63	40	....	....	1650	....	22
Soden, G. C.....	Ontario, N. Y.....	122	120	128	122	....	122	7250	50	62
Sprague, G. H.....	Steuben, N. Y.....	58	56	80	7	51	7	640	500	20
Stanley, O.....	Nelson, Ky.....	4	4	11	4	....	....	254	....	....
Sterritt, J. P.....	Mercer, Pa.....	57	52	70	57	....	57	1600	400	....
Stevenson, J. B....	San Bernardino,Cal	175	138	*200	....	....	....	....	49280	325
Stephens, B. R....	DeKalb, Ill.....	....	80	†102	....	....	....	999	7999	80
Stump, Wm.....	Hamilton, O.....	88	82	126	42	46	20	800	400	10
Sutcliff, Jas.....	Madison, N. Y.....	42	42	60	....	42	....	1500	750	26
Tabor, L. A.....	Hampden, Mass...	8	8	11	2	6	2	200	....	....
Tarr, C. M.....	Monroe, Wis.....	3	3	12	....	3	....	150	....	....
Taylor, R. C.....	New Hanover, N.C.	....	2	8	....	....	....	300	....	3
Taylor, M. F.....	Hennepin, Minn...	39	39	60	....	39	....	400	....	....
Tenny, Nelson....	Monroe, N. Y.....	57	55	60	57	....	....	2000	....	40
Thorn, J. C.....	Wellington, Can...	31	31	61	....	31	....	20	1400	12
Thompson, J. A...	Livingston, N. Y..	19	17	27	17	....	17	1501	77	....
Tibbetts, A. J.....	Dunn, Wis.....	6	6	22	2	4	6	300	....	....
Tracey, S. P.....	Gr. Traverse, Mich.	2	2	4	....	2	....	75	335	2
Triem, S. S.....	Blackhawk, Iowa..	38	37	60	....	38	....	500	....	5
Truman, L.....	Hillsdale, Mich....	40	37	77	....	40	....	....	2500	30
Van Horn, G. A...	Lucas, O.....	8	§11	20	11	....	11	....	987	24
Wade, Walter.....	Tippecanoe, Ind...	15	14	28	15	....	....	300	125	....
Wainwright, L. M.	Hamilton, Ind.....	3	3	11	....	3	....	....	....	....
Walser, H. T.....	Richland, Wis.....	6	6	16	6	....	....	50	....	....
Ward, W. S.....	Albany, N. Y.....	50	49	75	....	49	....	2840	160	....
Warren, H. H.....	Wayne, Mich.....	13	11	15	13	....	....	113	....	....
Washburn, F. H...	Outagamie, Wis....	28	26	50	28	....	28	2000	300	....
Weatherby, A.....	Meeker, Minn.....	9	6	9	2	7	....	132	....	....
Wellington, E.....	Tremont, Iowa	61	61	99	61	....	61	120	2000	30
Wellman, E. L.....	Warren, Pa.....	30	30	54	30	....	30	500	1000	....
Whitker, F. M....	Putnam, Ill.....	43	42	69	42	....	....	500	....	....
Wilcox, F.....	Juneau, Wis.....	45	43	50	7	23	5	800	....	7
Willard, W. J.....	Union, Ill.....	12	12	27	12	....	....	250	156	4
Wilson, E. T.....	Dodge, Neb.....	....	8	22	....	....	....	No acc't kept		
Winfield, J.....	Ionia, O.....	....	29	46	....	....	....	1072	500	....
Worrall, J. R.....	Crockett, Tenn....	50	45	52	50	....	....	500	2000	30
Worthington, W. S	Queens, N. Y.....	21	18	50	....	21	....	....	100	....

REFERENCES.—* Estimated to the end of the season ; † Purchased some ; § Sold some ; ‡ Raised and sold queens.

Our Letter Box.

Mauston, Wis., Sept. 10, 1878.

"I lost 13 colonies early in the spring from robbers and mice. I lose a few every year from bad boys in the neighborhood. I use box hives and 10 lb. boxes. I intend to make the study of hives and boxes an important consideration this winter, and start anew next spring." F. WILCOX.

[As you are using 10 lb. boxes, we strongly advise you to adopt the prize box. No other package sells well in this market.—ED.]

Boscobel, Wis., Sept. 16, 1878.

"The past summer has been a failure here. It has been impossible for honey to secrete in good flowing quantities on account of excessive rains. Our bees have enough good honey, well capped for ordinary winter and spring use. Colonies are very strong, and thrifty, and we look forward for a better season in 1879." EDWIN PIKE.

Clark's Fork, Mo., Sept. 15, 1878.

"This season has been a rather poor one for honey. For a short time in June our bees did remarkable well, but when the drouth set in they quit work and have done but little work since, with no prospect for fall pasture, although I think the majority will have enough honey to winter on."

S. L. JEWETT.

Franklin, N. Y., Sept., 19, 1878.

"It has been the poorest season for honey in this section, I have ever known for 10 years. All my hives have plenty of honey for winter. I placed my boxes inside of hives, they seem to like to store there better than in top boxes. My hive contains 8 frames 16½xII¼. After they get nicely started, I place the boxes on top and put empty comb in center of brood-chamber or foundation. I have tried a few frames of foundation and like it very much for brood, but don't want any more for startes in boxes; nice white comb is better."

BENJ. FRANKLIN.

Riverton, Iowa, Sept. 13, 1878.

"The best part of my honey season has been the last 3 weeks. I have about 600 lbs. in the hive yet to extract and about 200 lbs. comb honey to take off. We have had frosts for the last 2 nights and I am afraid that it ends the honey season. I was trying to get 600 sections filled. I have 125 filled and the rest about ready to cap, but if the season is over, the capping I suppose is over also. My crop of honey last season, was about 4,000 lbs. I have had over 100 frames of honey melt down this summer. One hive of a capacity inside of 7,500 inches, with 24 frames, all melted in a heap, the first I ever had." E. WELLINGTON.

San Bernardino, Cal., Sept. 8, 1878.

"After last year's honey season we divided and got fertile queens, all doing well, but instead of letting well enough alone, we thought we would improve the stock; having received some fine Italians from the east; and killed off a good many laying hybrid queens, but the season being late, and drones scarce, we failed in replacing a good many of them, hence the reason of such a discrepancy in numbers between fall and spring. We prevent swarming all we can, but last spring several did come out, 12 of which we hived; which made up our number to 150 in all, and that is the number we worked this summer. This valley of ours is seldom noticed as a honey producing one, the neighboring counties San Diego and Los Angeles generally get all the credit. Now I wish to state, that this valley is equal to any of them, and in a year, such as last, far superior. for while those counties were losing colonies by the hundreds, none of our bee-keepers lost any by starvation, but instead, most of them were able to ship considerable surplus honey. From our 102 colonies we received 11,000 lbs. This year all have done remarkably well, few averaging less than 200 lbs. to the colony. As to quality it can't be beat. These are facts, which ought to give San Bernardino honey a reputation equal to any made in California. Those who have used foundation most have done the best, and all agree that it is essentially necessary for large honey yields."

JAMES B. STEVENSON.

Fish Creek, Wis., Sept. 13, 1878.

"I wintered my one colony of bees in my dwelling house, in a room up stairs. They came out in the spring all right, but they had no honey in the spring to keep them through the wet, cold, weather we had here, and I feared they would not do much, so I sent to you in June, for a nuclei colony, but before they arrived, I saw that my bees were queenless, and I put them together in the Langstroth hive, and they have increased to 2 good colonies. I have kept them from swarming by giving them plenty of room, to work in, over the breeding apartment, and they have done well, and are the nicest and largest bees that I ever saw. I am going to try wintering out doors this winter, and shall report in the spring how they did."

WM. DARLING.

Canandaigua, N. Y., Aug. 31, 1878.

"My 122 colonies I obtained from 52 colonies, in box hives, bought in the fall of 1877, although they were wintered with cut straw on top and straw on all sides except back and front. I transferred them in the spring of 1878; taking out the drone comb, was the cause of my getting so much wax. I used 20 lbs. worker foundation to replace the drone comb. Also, used about 15 lbs foundation as starters in sections. Have fed my bees nothing this year and will not be obliged to feed any. I had 40 lbs. or thereabouts of honey that I took from them, when transferring, I fed that back. I have made no estimate of that. Instead of chaff I used cut oat straw. I did not get honey from 20 of my colonies. The season here has been anything but first class. Bees lost 5 days in the best of white clover bloom, on account of its being cold and rainy. Also one day in basswood season. Have taken no honey from blacks since July 25th, nor do I think I will get any. My Italians have made about

25 lbs. each, since July 25. It has been 2 weeks since they stopped work. Think I have all the surplus honey I will get this season. Have no sections on at present."

G. C. SODEN.

Mt. Auburn, Ind., Sept. 7, 1878.

"My bees commenced to swarm in April, and kept it up until the middle of August. Would have had a very good season for honey, if we had been prepared for it. Nearly all are now in good condition; plenty of bees and raising more, and gathering their winter stores. A sorghum mill is going to start within half a mile; I do not yet know what plan I shall adopt, to keep my bees away."

H. B. LISK.

Genoa, DeKalb Co. Ill., Sept., 16, 1878.

"The honey season has been a very good one in this section, especially for those that have managed their bees with a proper knowledge of the science of bee-keeping. The notice in the JOURNAL last winter, that I would sell 80 colonies of bees, was noticed by Mr. Stephens, of Toronto, Canada. A short correspondence and a bargain was made. In consequence of the long continued cold weather before June, one-half of the colonies were reduced to very few bees. But as the white clover began to blossom, they were soon in a condition for gathering honey. And with his knowledge of the science of bee-keeping and a perseverence in the business, Mr. Stephens has finished the season with the following result: 102 colonies, 8,000 lbs. of extracted honey, a large amount of comb-honey, not yet removed from the hives, 80 lbs. of wax, and plenty of honey now in hives for winter stores. The bees were moved 3 miles from their old stand, with the exception of 2, the product from those 2, were 9 new colonies, and 280 lbs. of extracted honey, and with not a particle of feed but what they gathered from the fields; have now enough for winter."

A. STILES.

Warsaw, Canada, Sept. 10, 1878.

"The season here has been poor for honey. Continued frost in May and to 10th of June, left my hives without honey at that time, and several swarmed out to avoid starvation, but from that time up to date the season has been very good. Colonies all in good order for winter, having a large amount of brood in them now. I shall extract about 300 lbs. more yet from them and still leave plenty for winter stores."

G. GARLICK.

South Pendleton, Ohio, Sept. 15, 1878.

"The weather of the month of June ruined our prospect for this year, which up to that time was never better. I calculated on 4,000 lbs. of surplus honey, but got only 1,200 lbs. I had only 5 natural swarms. The hive I use is a non-swarmer; its capacity at one time is 132 lbs., but I never allow a box or frame to remain on after it is capped over. After honey season is over I get my increase by taking one frame from each hive, putting 6 together and giving them a young queen of my own raising; having 15 nuclei. My increase has not been all from my own; having bought 3 and traded hives and honey for some, and had some on shares. Bees in this locality go into winter quarters strong in young bees and plenty of honey. I am now preparing my bees for winter in chaff, with carpet over bees and no honey board. My hive holds 8 frames 11x17⅝."

W. STUMP.

Neosho Rapids, Kan. Sept. 9, 1878.

"My bees have increased well, this season, by natural swarming. They made no surplus honey until about two weeks ago, I took 40 lbs. from 2 hives last Saturday. I have 1 coloney which increased to 7 since last spring, by natural swarming."

NATHAN DAVIS.

Glen Rock, Pa., Sept. 7, 1878.

"There was no difference last spring in those colonies wintered in chaff or without, owing probably to our mild winter. I have good prospects for 300 or 400 lbs. of comb honey more this season; buckwheat harvest is good thus far."

J. H. BUPP.

Hudson, Mich., Sept. 16, 1878.

"My loss was heavy last spring. I wintered under a shed facing the east. All went into winter quarters strong and full of honey, but they dwindled all winter. They were in American hives and had a fair amount of ventilation and mats on top. I have a repository but I deemed it too warm last season to winter in. I think I will winter in chaff next season, as only 1 colony died that was treated that way last winter."

J. W. ALLEN.

Central City, Iowa. Sept. 16, 1878.

"Can Italian bees gather honey from red clover?"

Mrs. M. C. JORDAN.

[Only a little.—ED.]

Washington Co., Wis., Sept. 8, 1878.

"This is my first year's experience with bees. I have increased from 1 to 7; have taken 100 lbs. of surplus and have on the hives 50 lbs. more of surplus honey—about one half each of comb and extracted, leaving at least 30 lbs. for each colony to winter on. 'Foundation' and 'dividing colonies' did it!"

GEO. W. JONES.

[Seven colonies from 1 is "good enough!" but with 150 lbs. of surplus honey, it is astonishing. True, the use of "comb foundation" and judiciously "dividing colonies" will do wonders. If you have young bees enough, and give them 30 lbs. of good capped honey to winter on, they should winter well; and if so, you have nothing to be ashamed of from your first year's experience with bee-keeping.—ED.]

Garden Plain, Ill., Sept. 3, 1878.

"Bees are at work again, but the season will be a short one, being curtailed both at the beginning and end. They worked on clover about 4 weeks. On account of the drouth, the fall crop did not begin till about Aug. 20, and it will be a very light yield."

R. R. MURPHY.

Cedar Vale, Kan., Sept. 15, 1878.

"Our fall honey rush is just commencing. Aster and golden rod is in abundance, we have two kinds of astor here, both excellent honey yielders. My bees have at this time an average of 45 or 50 lbs. of capped honey, and my reason for leaving that amount is that I am as yet unacquainted with the country, and know not what the fall resoures for late honey will be, but indications at this time are good. I think there will be considerable surplus yet. I find ready sale for extracted honey at 20 cents per lb. Could sell all my bees at $10. per colony, but intend keeping them, as they pay me well. My honey is a No. 1 article, very clear and white, and weighs 12 or 12½ lbs. per gallon."

D. BARTGIS.

New Richmond, Ind., Sept. 16, 1878.

"I wintered about 100 colonies without loss, on summer stands packed with chaff. Had 10 snowed under 4 feet deep for a month, 2 years ago, and all was well. I think we should breed for the characteristics we desire in a working colony, rather than "fancy" or appearance. I want good box-workers, no matter what the size or appearance of the queen. I have 1 colony that has not swarmed for 3 or 4 years, and is always in good condition and gives good surplus.

J. O. SHEARMAN.

Hamilton, O., Sept. 21, 1878.

FRIEND NEWMAN.—I will send you a condensed report of the meeting of the South-western Ohio Bee Keepers' Association, held in Lebanon, O., Sept. 14, 1878.

Drones can be kept for late queen-rearing, by taking a queen from a colony that has plenty of them, and keeping her in a nucleus till late in the season, then she can be returned. Queens will shake about in the cell when they are dead, but if they are alive they wil not. Nine lbs. of honey will last a moderate sized colony from Nov. 1st until April 1st, but a good colony requires 25 lbs. to last through winter and spring. "Root" and "King" smokers were on exhibition, besides a "Savage" queen cage, and "Mitchell" bee hive. As Mitchell is trying to get a hold in our neighborhood, I would take it as a favor, if any one that has had dealings with him that were not satisfactory, would send me a short account of it, on a postal card, to be used at our next meeting. Has he raised any queens at Sandusky this last summer, as per his pamphlet? Next meeting to be held in the same place on the second Friday in February, 1879.

W. S. BOYD, *Sec.*

Peoria, Ill., Sept. 22, 1878.

"Noticing that a colony of bees were not as populous as they ought to be, I examined them. Lo! and behold, the brood-nest wasn't there. It was entirely cut out in some frames, leaving openings as large as my hand; in others it was cut down to the base of the cells, and looked as if it had been newly varnished. There was not a cell of brood in the hive; and not one for the queen to lay in, for the rest of the frames were all capped honey. It had a fair amount of bees, a queen and a large amount of capped honey. There was no moths, and the hive was clean, as though they had just finished house cleaning. Why did they cut out brood-nest?"

MRS. L. HARRISON.

[We cannot explain this freak without more particulars. Was the comb old? This sometimes causes them to tear it down. Has any of our readers had similar experience? If so, we would like to hear from. —ED.]

Greene, Iowa, Sept. 9. 1878.

"My bees have done well since the first of August. I got all my surplus, 2,500 lbs., in four weeks, from buckwheat and fireweed. I have one hive on the scales; the most gathered in one day was 6¼ lbs., and the least 2½ lbs."

E. EIKENBERRY.

Byron, N. Y., Sept. 9, 1378.

Hive No. 79 has so far given me one hundred and three boxes of white honey, weighing two hundred and eight pounds."

J. E. MOORE.

[Good enough. That must be your "banner colony," is it not, friend Moore?—ED.]

Hope, O., Sept. 7, 1878.

"Instead of an extraordinary honey yield we had almost a failure. Comb foundation has helped me out of many difficulties already. I never saw bees stronger or working more vigorously than now."

E. MCNITT.

Vinton, Iowa, Sept. 9, 1878.

"I began the season with twelve colonies, and had nine swarms. One of the swarms left the hive after the queen began to lay, and united with another swarm. White clover yielded abundantly. From then till the end of August they did nothing. Now they are at work on fall flowers, which are abundant here. I have ready sale for all my honey at fifteen and twenty cts. per pound."

JAS. RALSTON.

Lincolnville, Ind., Sept. 14th, '78.

"I think I have done pretty well this season. I robbed my bees a little too much last season; half of them would have starved if I had not fed them. I examined them early and found one colony starved to death. I immediately bought $5 worth of sugar and fed it all to them. This lasted till white clover began to blossom, but just before the clover began to bloom they pitched in and robbed out one colony, leaving but eighteen colonies. I have sold all my honey at twenty cents per lb. It was pronounced the nicest comb honey in the market."

JOEL BREWER.

Nodaway Mills, Ia., Sept. 9, 1878.

"Bees in this part of the country are storing from buckwheat, smart-weed, spanish needle and golden rod; but the past few days has been so cold, that they could not do much. The spanish needle honey I like very much; it is clearer, but a little thiner than buckwheat, but very pleasant to the taste, after standing for awhile. Gathering has been good all summer until the last of August, except about 2 weeks before and

during basswood bloom. The honey stored then, principally mustard, was clear but very thin. The first part of the season was very wet." R. C. AIKIN.

Grant, Ky., Sept. 23, 1878.

"Bees are doing well now on smart-weed and other wild bloom; the golden rod is not quite in bloom, but will be in about a week from now." R. L. AYLOR.

Hubbard, O., Sept. 17, '78.

"The season here has been good. I sell comb honey at 25 cents per lb; extracted, 6 lbs. for $1.00. Wholesale, 15@20 cents. I could not get so much were it not in small sections." J. WINFIELD.

Macon, Mo., Sept. 8, '78.

"Wintered 18 colonies; 2 starved; sold 8 in the spring, at $6. each, leaving 8. Have Italianized and built up to 51 strong colonies of 8 to 12 frames each. Have taken 1200 lbs. of honey, and expect several hundred pounds more." C. EGGLESTON.

Walton, Ky., Sept. 9 '78.

"My bees did well, and all in good condition for winter. I use the Langstroth and Mitchell hives—the former I like best for comb honey production, the latter for wintering." JOHN. H. FULLILOVE.

Adams Center, N. Y., Sept. 9, 1878.

"Early frosts and wet weather following, ruined the spring honey crop. Then they swarmed too much, and the extreme hot weather, caused many of the combs to melt down. Another year I shall try to prevent swarming and work for box honey. My bees are in good shape for winter. May have to feed a little." C. E. GLAZIER.

Elliston, O., Sept. 9, 1878.

"My bees are storing honey now from boneset and golden rod. I will get two or three barrels more of honey. I lost two colonies in the spring by being queenless; and two by moving them into the country. Box-honey is almost a failure this season, on account of too much rain."

JOHN F. DIPMAN.

Haskinsville, N. Y., Sept. 9, '78.

"This has been a very poor season for honey. With more bees and better advantages for taking honey than last year, I have taken only about one-third the amount of honey I then had. It has been a fruitful season and plenty of bloom, but it was too wet for honey." GEO. H. SPRAGUE.

Ada, O., Aug. 28, 1878.

"I have gradually increased from ten log gums, bought in the spring of 1875, to one hundred and twenty-five colonies at this date. During the latter part of July and first of August, the Italians worked on my large English clover by the ten thousands, from morn till dusk. The family house and section boxes tell bad stories on the black bees. It has been said, that blacks are best for storing box honey, my experience is this: give the Italians a Langstroth hive and at a proper time the right kind of sectiins, and they will leave the black bees in the shade. I have no queens for sale. All having Italians in movable frame hives should use an extractor. Comb-foundation and the extractor combined with the Langstroth hive, and well developed intellect, will make the Italian mothers smile, while her sons and daughters will not fail, under ordinary circumstances, to well satisfy their master. Bees are doing but little now, about surplus honey, though, they are feeding an unusual amount of brood. Buckwheat, boneset, golden rod and smart-wead, are abundant and make them a good fall pasturage."

J. B. MURRAY

Berne, N. Y., Sept. 6, '78.

Spring opened very fine, and brood-rearing was far in advance of the usual season, but from May 9th, to the middle of June, we had more or less rain, followed by frosts and cold weather. Swarms that were apparently about issue, killed their drones and did but little. The latter part of June and July has been warm and more favorable. Buckwheat bloomed in August, and bees are doing finely." M. SNYDER & SON.

Jonesboro, Ill., Sept. 9, '78.

"The spring yield was poor, on account of so much wet weather. The last two weeks have been splendid, but I have not had the bees to gather in the honey. They were thinned out by the "bee killer" during the buckwheat bloom. My hives were full of bees when the buckwheat began to bloom, and in less than ten days they looked as if they had been swarming. The "bee killers" infested the buckwheat fields by thousands. I saw them nearly as thick as the bees. It has been a great disappointment. I fed my bees all through July, and had the hives crowded with young bees, to take advantage of the fall flowers." W. J. WILLARD.

Duncan, Ill., Sept. 10, 1878.

"I am trying the Langstroth hive. The bees have built between the end of the frames and the hive. I think there is too much space. As to bees freezing, I think there is more smothered than frozen. I always give my bees more ventilation in winter than in summer. I use a double-wall hive. The bees are protected against both heat and cold. I have had bees for 40 years. I take the AMERICAN BEE JOURNAL and think it the "boss." It interests me much. Success to its Editors." W. H. PIERSON.

[Evidently there was too much space between the ends of the frames and body of the hive. It should be ⅜ of an inch. If more, it is too much.—ED.]

Swanton, O., Sept. 3, '78.

"I had a heavy swarm come out early in May, from a hive that lost its queen; gave it empty combs on July 23d. I extracted one hundred and fifty-eight pounds of honey from one colony, Aug. 26. I have taken nineteen queens from my yard, and had twenty colonies, from which I got nine hundred and eighty-seven pounds of honey, and twenty-four pounds of wax. I left four solid frames to each hive. I only had eleven

colonies last April. I would like to get a queen that will produce as many and just as good honey gatherers, and brighter queens, than the one that I have taken one hundred and fifty-eight pounds of honey from.

NOVICE.

Garland, Pa., Sept. 5, 1878.

DEAR EDITOR:—Your suggestions in regard to our National Society awarding prizes at apiarian exhibitions, we think well-timed and appropiate. It is not only necessary that bee-keepers should attend our conventions, but they should be made so attractive, that it would bring both, consumers and producers together for mutual protection against our common enemy—the sharks of our profession, and long may you live to deal sledge-hammer blows right and left, for the right against imposition and fraud, in whatever form it appears"

JNO. F. EGGLESTON.

Strait's Corners, Sept. 9, '78.

"The honey season has been poor; white clover about half a crop, buckwheat a two-thirds crop. With a good season I should have doubled the amount of surplus. Bees are all strong with plenty of stores for winter. Shall winier twenty colonies in the cellar and thirty-six out of doors, packed in chaff. Is it necessary, in out-door wintering, to cut passages through the combs when they are provided with a passage way over the top-bar of frames, with quilt and one foot deep of chaff in front, and six inches on each side and rear end?"

J. E. PELHAM.

[Certainly not. The passage-way over the frames will do. Do not leave too much space; two or three sticks placed across the frames, sufficiently large to keep the quilt up high enough for the bees to pass is sufficient.—ED.

Detroit, Mich., Sept. 9, '78.

"I commenced bee-keeping eighteen years ago, when I found out that the cruel process of killing bees to get at the honey was abandoned. Not knowing anything about bees, I was cheated by a soldier of whom I bought twenty colonies, which I had to reduce to twelve in the fall. For safe keeping I put them in a barn. The next winter, a very mild one, killed half of them. I Italianized the six remaining ones, and lost them all in the next two years. After two years I bought one colony in a common box-hive, transferred it to one of my simple box-hives with eight movable frames of the same size as in the New Langstroth hive, and increased them slowly. Now, I always keep them out doors, have sometimes lost none, sometimes one-quarter or one-third, but in the winter of 1874—5, when I went to Germany, I lost all but six. Eight colonies of the twenty-eight which I had last spring, I lost by robbers in my own apiary and from others. They might have been weak, but they were not queenless, because I found brood in every one of them. Of the twenty colonies, I obtained eleven first, and five second swarms. Some four or five colonies brought three swarms, which I put back to the parent-colony. The nine remaining ones gave most of the comb honey which I secured this year, and the extracted winter-killed colonies."

DR. CARL BRUMME.

Bricksville, O., Aug., 20, '78.

"The only reason why my report is not from one-third to one-half more, is from the entire destruction by fire of all my stock of hives, frames, cases, sections, foundation, etc., at the beginning of the season. I lost four or five buildings and all my stock of bee fixtures. Consequentiy when the swarming season came on I was obliged to place the bees in supers and tops, which of course was not available for comb honey. The season here has been a splendid one and everybody's bees seem to have done well. My greatest difficulty was to get enough sections to keep them going."

CHAS. S. BURT.

Platteville, Wis., Sept. 9, '78.

"We had a poor season for bees. White clover yielded well, but basswood was a failure. They are at work now on fall flowers. I had to double up some fifteen colonies. My bees in the 'Home Apiary' are in the south-east corner of my land, near the road, and they sometimes sting passers-by. My neighbor on the east, bought the farm knowing the bees were there, and is bothered some by them. Am I liable for damages if they sting those who pass in the road, or sting horses and cause them to 'run' and do damage?"

E. FRANCE.

[We cannot say how to decide the law point, but if the case were ours, we should move the bees to a more retired place before another sun-set. We have no right to annoy our neighbors, or cause them damage simply for our own gratification. We think common humanity and courtesy would dictate their immediate removal.—ED.]

San Jose, Cal., Sept. 4, '78.

"My yield of honey would have been fully one-third more, but have been Italianizing with a very fine strain of Italians. Received bees from several different ones, but do not find any Eastern strain as fine in color or looks, or as industrious, as our best California raised Italians. My best ones come nearly up to friend Brooks' standard, except the drones are not quite all perfectly three-banded. I think that this State will in time, on account of its climate, produce the very best strains of Italians. Will some one give an essay on the best way to get the Italians off from the combs? They decidedly object to being brushed off, and shake off very hard."

S. S. BUTLER, M. D.

Vermont, Ill., Sept. 10, 1878.

"Enclosed find photograph of straw hive, with which I have been experimenting. Straw is 1½ inches thick, very compact and thoroughly painted on outside. The corners are of galvanized iron, and straw is laced with copper wire, and they can be made rapidly.

W. J. ATKINSON.

[After a trial, we would like to hear the result.—ED.]

THE AMERICAN

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Contents of this Number.

EDITOR'S TABLE:

Editorial Items....365 to 372
Seasonable Hints.... 366
Progressive Ideas.... 366
New Post Office Ruling.... 366
The Floating Apiary.... 367
Local Convention Directory.... 367
Southern Kentucky Bee-Keepers' Convention 367
Our Clubbing Price List.... 367
Untested Queens.... 368
Selling and Shipping Honey.... 368
Winfield's Pillar of Honey.... 368
Honey Sections all in One Piece.... 368
Glucose for Feeding Bees.... 369
A Curiosity—Comb on Trees.... 369
Items Caught on the Wing.... 370
Tons of Honey.... 370
Care of Extracted Honey.... 370
Honey for Manufacturing Purposes.... 371
One Pound Sections *vs.* Prize Boxes.... 371
Austro-German Congress.... 372
Kind Words.... 372
Petrified Honey Comb.... 372

NOTES AND QUERIES:

Golden Rods.... 373
The Tailor-Bee—Insect.... 373
Asters, Partridge-Pea and Golden Rod.... 373
Alstke Clover.... 373

FOREIGN NOTES:

Sixty Tons of Beeswax Sold in Lisbon.... 374
New Langstroth Hive in France.... 374
Comb Foundation in Germany.... 374
Bees with Wasp-like Bodies.... 374
Bee Conventions in Germany, Italy, France.. 374
Bee-Keeping in Russia.... 374
Bees and Honey in Greece.... 374

CORRESPONDENCE:

Glucose for Feeding Bees.... 375
Pure Bees *vs.* Good Working Qualities.... 376
Light-Colored Drones.... 376

CONVENTIONS:

National Convention Report.... 377
Rise and Progress of Bee Culture.... 379
Fertilization in Confinement.... 384
Bee Pasturage....387, 395
Rational System of Wintering Bees.... 389
Our Honey Markets.... 391
Glucose for Feeding Bees.... 392
Comb Foundation.... 393
To Honey Producers and Consumers.... 394
Standard of Purity for Bees.... 395
Foreign Races of Bees.... 396
Untested Queens not approved.... 396
Petition to Congress against Adulteration.. 397
Miscellaneous Business.... 397
Stray Thoughts—Kansas Convention.... 397
Prevention of Increase—North Mo. Conv'n.. 398
North-Western Ohio Convention Report.... 399
Albany Co., N. Y., Convention Report.... 400
Central Kentucky Convention Report.... 401

OUR LETTER BOX:

Sundry Letters....402 to 403

BUSINESS DEPARTMENT:

To Correspondents.... 403
Honey Markets.... 404

Editor's Table.

☞H. G. Heckman, Constantine, Mich., has placed an excellent sample of his white clover honey on our table. It is beautifully clear and white.

☞The North-Eastern Wis. Association have printed their proceedings in a 12 page pamphlet. Those wanting copies should send to the secretary, Mrs. F. A. Dunham, De Pere, Wis., for them.

☞The island of Cyprus at one time contained nine different kingdoms, and more than a million inhabitants. Owing to the alleged peculiar temperament of its people, it was called "the home of love and beauty."

☞The Louisburg, Kansas, *Herald.* has over two columns devoted to a description of Mr. Paul Dunkin's apiary. Mr. D., is a successful and scientific apiarist, and well deserves the compliments given by the *Herald.*

☞Mr. J. E. Moore has sent us a sample of his new crop of honey in his style of box. It is very fine. Also samples of his manner of marketing. He makes those caps for 1, 2, 6 and 12 boxes, and furnishes a wood bottom for them, so that they can be marketed without crating—though they must be crated or boxed when shipped. Friend Moore is a genius, and makes marketing a study, and we are glad of it. Such persons are always a benefit to society.

SEASONABLE HINTS.—In this northern climate, if your bees are not already in winter quarters, lose no time in putting them in at once. See that all have 30 pounds of good, capped honey for winter food; if they have not enough, feed them. Any colonies that are weak should be united, so that they may be strong in numbers. A division board to contract the chamber will be convenient. Cover the frames with a sheet of duck, coarse factory cloth with cotton batting between, or some woollen quilt, to keep them warm and absorb the moisture, and place in the cellar or winter repository. Keep the temperature from 35° to 45°, and see that it is properly ventilated.

If you wisn to winter out of doors, protect either by packing in chaff, hay or straw, 3 or more inches thick, with a slanting-board roof to keep it dry, or use a box for packing as described by Prof. Cook in his new Manual.

Having placed your bees into winter quarters, store your mind with bee literature, for it will make you wise and successful,—and then make hives and boxes for next season's operations, or procure them of some reliable dealer. This is very often the most economical way—but don't wait till next spring before you send your order for them, and then get them by express. Order them early and get them by freight, thereby saving expense and worry.

PROGRESSIVE IDEAS.—One important action taken by the National Bee Keepers' Convention, was that in reference to "increasing its usefullness," as reported on pages 378-9 of this issue. We mean particularly its advice to local societies to hold "Bee and Honey Shows" once in each year, at which time manipulations with bees should take place, and competitive exhibits of honey should be made. The National Society decided to offer a "diploma for the most expert handling of bees," leaving the local society to determine the kind of manipulation—whether of transferring, finding and caging the queen, uniting or dividing colonies, &c., &c. And for the best exhibit of honey in the most marketable shape, they agreed to "award a suitable medal."

This is a move in the right direction and must tell for good; educating the bee-keepers up to the right standard and getting them to adopt scientific management, and the most rational ideas. It has a farther intention—that of banding bee-keepers together for purposes of mutual interest, securing a uniform price for honey in each apicultural district. We really think this is the most important move that has been made for many years.

Now, we ask: Will bee-keepers all over the country endorse this policy, by becoming members of the National Society. It will take money to carry out a plan of operations, which is thoroughly agressive, but the dues of each member, (one dollar,) will do it, and carry it forward to success. The name and dollar may be sent either to the Secretary, Dr. E. Parmly, 19 West 38th St., New York; the Treasurer, J. H. Nellis, Canajoharie, N. Y., or to the President, the editor of this JOURNAL.

Providence permitting, we'll show you all, by next summer, something in the line of success heretofore unthought of. Now, how many will endorse this policy? Reader, will you?

☞ Many interesting communications and letters are deferred on account of the Report of the Proceedings of the National Convention. They will appear in our next issue.

NEW POST OFFICE RULING.—The Post Master General has issued a circular to Post Masters instructing them to receive "all articles of the third class (excepting in all cases liquids, poison, glass, and explosive materials, prohibited by section 133 of the postal laws), when enclosed in a special tin envelope," a sample of which was sent to the Post Masters with the instructions. This order now admits honey knives, and perhaps queens. We shall see our Post Master and ascertain before our next issue, in plenty of time for the queen business of next season.

Mr. C. O. PERRINE, proprietor of the floating apiary, returned to Chicago last month—also his managing bee-keeper, Mr. F. Grabbe. The St. Charles *Review*, of Oct. 19th, says: "The apiary (of 600 colonies) is at present located in Calhoun county, Ill., near the bank of the river, and will remain there till the last of November, or until the yellow fever subsides. The bees will then be loaded on barges and moved down the river to the vicinity of New Orleans, where they can begin work upon the soft maple and the willow blossoms, the latter part of January. Early in the spring the barges will be started up the river again. The design is to travel nights and lay by during the day for the bees to gather honey—the object being to keep the apiary among perpetual flowers throughout the season."

The Southern Kentucky Bee-Keepers' Convention will meet at Horse Cave, Hart Co., Ky., on the first Friday and Saturday in November, at 10 o'clock a. m., to which all those interested in bee-culture are invited. The following subjects will be discussed:

Who should keep bees, and how should they keep them?—Opened by a fifteen-minutes speech by W. Cook; Dr. Whitlock, alternate.
Artificial Swarming—James Ervin and N. P. Allen.
Transferring Bees—W. T. Sears and N. Holman.
Over-stocking—N. P. Allen and J. G. Allen.
Best Location for Bees—I. N. Greer and J. M. Holman.
Which will Pay Best, Comb or Extracted Honey? W. W. Wrtght and R. A. Alexander.
How to Winter in this Climate—J. D. Davis and Jo Adams.
How to Carry Through the Spring—A Simmons and H. W. Sanders.
History of Bee-Culture—Wm. L. Dulaney and J. G. Allen.
Artificial Comb Foundation—N. P. Allen and J. D. Davis.
All questions will be opened with fifteen-minutes' speeches.

All those who are on questions for debate are earnestly requested to be present and prepared to discuss the questions assigned them.

☞ New subscribers for next year will receive the November and December numbers free, as long as they last. So make up clubs at once. Our clubbing rates with other papers for next year will be as follows:

CLUBBING LIST.

We supply the AMERICAN BEE JOURNAL and any of the following periodicals at the prices quoted in the last column of figures. The first column gives the regular price of both.

Gleanings in Bee Culture	$2 50	$2 25
Bee-Keepers' Magazine	3 00	2 50
The three Bee papers of U. S.	4 00	3 00
British Bee Journal	4 00	3 00
All four - British and American	6 50	5 00
American Poultry Journal	2 75	2 50
American Agriculturist	3 10	2 65
Moore's Rural New Yorker	4 15	3 65
National Live Stock Journal	3 65	3 15
Prairie Farmer	3 50	3 15
Scientific American	4 90	4 35
Western Rural	3 50	3 15
Voice of Masonry	4 50	3 75

☞ We have received a nice photograph of C. E. Sweetzer's apiary. It is located in Plain City, Madison Co., O. The array of hives and general business look of things being quite creditable to friend Sweetzer's energy and progressive ideas. We congratulate and thank him for sending it to us. It now graces our Museum wall.

☞ In writing to this office, please do not mix business matters up on the same sheet with articles for publication. It is very inconvenient. Write it on separate sheets, so that the business matter can go directly into the hands of the business manager, and that for publication to the editor—two different persons.

AN APOLOGY—I promised to lecture at the recent meeting of the Western Illinois and Eastern Iowa Bee-Keepers' Association, and thoroughly expected to fulfill my promise. But work which I could neither hasten nor defer came upon me to be done, and enforced my absence. I was compelled to telegraph at the last moment that I could not be there. The meeting at Burlington in the spring gave me so much pleasure and profit, that I had looked forward with much interest to the New Boston meeting with its genial associations and its contagious enthusiasm. My unwilling absence was a real regret to me. I hope all the good friends will take this statement as a sufficient apology for what may have seemed an unfaithful neglect. O. CLUTE.

Iowa City, Iowa, Oct. 21, 1878.

Local Convention Directory.

1878.	*Time and Place of Meeting.*
Nov. 1.	—Southern Ky., at Caverna, Hart Co., Ky.
11.	—Lancaster County, Pa., at Lancaster, Pa.
Dec. 4.	—Michigan State, at Grand Rapids, Pa.
17,	—Northwestern Illinois, at Shirland, Ill.
1879.	
Feb. 14.	—South-Western Ohio, at Lebanon, O.
May 6.	—Albany County, N. Y., at Clarksville, N. Y.
6.	—Central Kentucky, at Lexington, Ky.
28.	—North-Eastern Wisconsin, at Hartford, Wis.
Oct. 21.	—National Convention, at Chicago, Ill.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

MARRIED.—Sept. 24th, 1878, at the residence of the bride's parents, in Granville, Licking county, Ohio, by the Rev. W. B. C. Rhoads, Dr. W. B. Rush, formerly of New Orleans, recently of Pekin, Ill., to Miss Fannie Asher, of Granville, O.

FRIEND NEWMAN: Dr. W. B. Rush, well known to the readers of the JOURNAL, has invaded our peaceable little town, and carried away with him one of our fairest daughters, Miss Fannie is the youngest daughter of one of our pioneer bee-keepers. She is well posted in the business, and the Doctor will find an efficient assistant in his accomplished wife. They have the good wishes of all their friends for their prosperity and safe journey through this vale of tears. W. U. S,

Selling and Shipping Honey.

For a lady of good practical sense commend us to Mrs. L. Harrison, of Peoria, Ill. In a late *Prairie Farmer* she remarks as follows on the subject of marketing honey:

White comb honey in the "prize box" has only to be shown to be sold. The temptation is too strong to be resisted. I once asked a person if he wished to buy some honey. He quickly answered, "No." I said, "Will you please look at it?" As he politely complied, he uttered a prolonged "O, I must have some of that."

If I had extracted honey to sell, I would visit all the drug stores in my vicinity and ascertain if they were supplied. These establishments use considerable; they put something into it to make it taste badly, and sell it as a sovereign remedy for coughs and colds! Extracted honey, put up in gallon packages, ought to sell well to families, boarding-houses, and hotels. Grocerymen do not seem to understand the selling of it; it gets to be an old settler.

Farmers do more to keep down the price of honey than any other class of people. They do not make a business of keeping bees, and when they "take up their honey," they load it into a wagon, drive to the nearest town, and sell it for whatever they can get. They know little and care less about the price of honey.

The demand for honey is yearly on the increase; formerly it used to be considered as an article of luxury or medicine, but the mass of the people are fast being educated to consider it an indispensable article of food.

☞ Milo Spalding has sent us a sample of drones and asks what we think of them. They are very large, well marked and bright in color. A friend sent to him to get some of the stock, and he informed him that he had none to sell. On inquiring where he procured the queen, he said he got her at the BEE JOURNAL office in Chicago, and wanted to get more of the same stock. Good enough. He can be accommodated next season. We have refused $50.00 for the mother of that queen.

☞ By special invitation of President Cheney, we expect to attend the Michigan Bee-Keepers' Convention at Grand Rapids, Dec. 4th and 5th.

☞ Any one having Vol. I. of the AMERICAN BEE JOURNAL for sale, will please send postal card to this office, stating price.

NEW HONEY SECTIONS.—Mr. G. B. Lewis, of Watertown, Wis., has just brought out something new. They are all in one piece, nicely planed on all sides, and just where the joints should be it is gouged out perfectly true, so as to allow it to be bent into shape. The two outside ends being dovetailed, it goes together easily, and forms a nice box. When glued at the joints it is very solid and strong.

☞ A friend in Penn., writes us concerning an expression in the Sept. No., about the decision of the P. M. General excluding bees from the mails. We said that it would nearly ruin the dollar queen business. We added that "such ought not to be sent out either by mail or otherwise." Our friend wants to know, *Why?* We cheerfully answer: Dollar queens are *untested*, and often prove impure; purchasers unacquainted with Italians suppose them to be pure, and then raise and sell to their neighbors their progeny for *pure* stock, and thus, unwittingly, give Italians a bad name. Such a man called at our office some time since to see Italians; he said he never saw any like ours before, though he had purchased one of some breeder and raised queens from her and sold them to his neighbors for Italians. This is one of the evil results. Hence we said no untested queen should be sent out. Are we not right?

☞ J. Winfield, Hubbardston, O., has sent us a photograph of the Pillar of Honey, on which he obtained the Prize at the Ohio State Fair. It is handsome and caused much admiration while on exhibition. We cannot too strongly urge upon bee-keepers to exhibit their honey at all the neighboring fairs. It will speedily give their honey character and demand at home!

☞ Winter has come in good earnest, apparently; and much earlier than it has done for many years. "Frost and snow" now prevail, as we go to press.

Glucose for Feeding Bees.

We regret that the retiring President of the N. A. B. K. Association so strongly endorsed the use of glucose for feeding bees. It was doubtless a mistake; and when contrasted with the experience of the Rev. J. W. Shearer, as stated, on page 392, of this JOURNAL, it appears exceedingly unfortunate. Mr. Shearer *killed* nearly all his bees, by feeding them glucose, and remarks on page 393 that "there is sufficient acid in the best glucose to kill bees."

Mr. King has tried both the native and foreign article, and says that he "could not eat a piece the size of his thumb nail without vomiting!"

Prof. Hasbrouck remarked that the sulphate of iron, which is not fully removed in its manufacture, caused the difficulty. He also stated that "if pure, glucose is not deleterious." This is the very point we propose to test. We tasted some of that, which was said to be *pure*, a few days ago, and should as soon think of feeding our bees arsenic as any of that vile trash! We expect to give in the next issue the result of a carefully conducted analysis which is now being made in the Michigan State Agricultural College laboratory. Till then we will suspend judgment.

A letter from Mr. L. P. Best, Superintendent of the Davenport Glucose Manufacturing Co., says that it is not true that dry glucose is obtained by using a great quantity of chalk, as stated by Mr. Dadant! He adds: "We are offering $50 reward to any one that will find one per cent. of chalk in our grape sugar." Mr. Dadant has answered this matter on page 375.

It must be a strange infatuation that could allow Novice to say (as he does on page 348, Oct. *Gleanings*), that glucose "for brood-rearing, is even *better than honey!*" Is he not over-worked and worried with his new building on the fair grounds—making him "light in the upper story?" We fear that it may be so, but hope not. His perversion of the language quoted from Mr. Langstroth's work, would seem to indicate a liberal share of insanity! Rest, Brother, Rest! Review and Recant!

☞ At the Iowa State Fair T. B. Quinlan, of Cedar Rapids, had the largest display of nice honey, and took a prize of $10.00 therefor. It is spoken of by the papers in that locality in terms of strong praise. Of course he used the prize box and crate. D. W. Thayer and J. R. Rogers, also obtained prizes for honey. Iowa is a progressive State, and its citizens fully appreciate honey when made attractive.

☞ F. B. Thurber, Esq., is in Europe on business. In his absence a cable despatch was sent him offering him the nomination for Mayor of New York—but he promptly declined the honor.

☞ A bottle of honey sent by *mail*, to the National Convention, in our care, came to hand with the bottle broken and honey all gone—spilled about the mails. There is no doubt about the wisdom of the Postmaster General in excluding such from the mails. Its being forwarded was in disobedience of his orders, and no doubt was visited by a rebuke.

☞ The Paris Exposition Judges have awarded to Thurber & Co., of New York, the "gold medal" for honey and beeswax, while the French Apicultural Society have bestowed upon this firm a "Medal of Honor" for the "best honey in the most marketable shape."

A CURIOSITY.—Postmaster Boughton of Ridgebury, Conn., has discovered in his yard a comb of honey attached to an apple tree. It was made by a small swarm of bees, and the comb is as large as a peck measure, hanging from one of the limbs of the tree. At night the bees cover the outside of the comb instead of resting in a bunch in some one part of it. They do this to protect it from the dew, and so closely do their bodies join as to completely cover the surface. So says an exchange.

Items Caught on the Wing.

We were absent from home, from October 2d till the 24th, and while much might be said of our trip—one sentence will describe the whole of it: —Pleasurable and thoroughly enjoyed everywhere. At Toledo, O., as guest of Mr. J. Y. Detwiler, and as visitor to the North-western Ohio Association then in session, we found old friends as well as *new* ones, and enjoyed our visit exceedingly.

At Cleveland and Kent in Ohio, Elmira, Penn Yan, Seneca Falls, Syracuse and Suspension Bridge in New York, we visited with old friends and relatives, and, of course, had an enjoyable time.

At New York City as guest of Mr. Hoge and in attendance at the National Convention, we received unexpected honors, as well as a hearty welcome. With our old friends, it was a pleasant re-union; and with our newly-formed acquaintances, it was "pleasurable hours," gliding into "days of delight."

At Syracuse we enjoyed a few hours' chat and visit with our fellow-laborer, Mr. G. M. Doolittle. This was an interview we had long desired, and we made the most of the minutes as they glided into "the things that were." Friend Doolittle will, hereafter, furnish our readers with one of his thoroughly-practical articles in every issue of the BEE JOURNAL.

At Hamilton, Canada, as guest of Mr. W. G. Walton, we spent a few "happy hours"—delighting the eye with many enchanting landscapes, as well as cheering the heart with interesting conversation upon bees, and things thereunto belonging.

At Lansing, we spent a few hours at the Agricultural College, as guest of our friend and co-laborer, Prof. A. J. Cook. We looked over the magnificent grounds, and handsome buildings, and were delighted. Such an Institution is a credit to any State, as well as of incalculable benefit to the rising generation.

We have heretofore made many trips through fourteen of the States and Canada, but never was one more full of interest and pleasant reminiscences than this.

TONS OF HONEY.—One of the wholesale establishments in New York (Thurber & Co.) sold in one week of last month 56,000 lbs. of honey (28 tons), and the next week 27 tons. They expect to handle a million pounds this season. How many millions of bees have spent their *whole lives* in gathering this honey? How wonderful is nature? How persistent the untiring labors of "the little busy bee?"

☞ Some men "know it all;" that is, all that is *worth* knowing. They never learn it of any one; it was evolved from their own massive brain! Such sneer at everything that is progressive, and rail at men of advanced ideas! These men may be sincere, but they are unhealthy and should be pitied rather than reproved. Their "dog in the manger" style of disposition, is a source of misery not only to themselves but all around them. If they live unrespected, and die unregretted, who is to blame? We have a few of such among bee-men—but only a few, we are thankful to say.

CARE OF EXTRACTED HONEY.—The San Francisco *Chronicle* says: "Los Angeles and San Diego counties can vie with the world in the quality of their honey, and the only drawback to extensive foreign demand has been the careless and diversified method of marketing. We are glad to see that there is to be a change in this regard in the southern counties. The process of packing to be pursued in future is described as follows: Upon receiving the extracted honey they place it in large settling tanks of 3,000 pounds capacity, and this, securely covered, is left exposed to the rays of the sun for a day or so. By this process all impurities are eliminated, rising to the surface, and the pure honey is drawn off at the bottom. It is then put up in neat tin cans containing two pounds each, and packed in cases of two dozen each, handsomely labeled. The design is to ship direct to Liverpool, where, with proper management, an extensive market can be worked up."

Honey for Manufacturing Purposes.

The following from the N. Y. *Journal of Commerce* will be read with interest by honey producers:

New York, Sept. 13, 1878.

Editor of the Journal of Commerce:

The bee-keepers in the United States are now securing so much honey that it is becoming an important question how we are to find a consuming outlet for it. Heretofore it has been used simply as a delicacy for occasional table use. You will do a good turn to a good class of men by answering the following questions: Can honey be converted into sugar? To what use can honey be put in manufacturing? What is its relative value as a substitute for malt in the brewing of beer and ale? At what prices could brewers use it? By answering the above you will oblige the owner of 2,000 colonies of bees. J. S.

REPLY.—Here, now, is a fine chance for American chemists. A fortune may reward the man who discovers some entirely new use for honey. We summon American chemistry to answer the question—"To what use can honey be put in manufacturing?" If our correspondent means by "sugar" the crystallized article, we would say that, by no known process, can honey be converted into *that*. Most of its saccharine matter has the properties of grape sugar and cannot be changed into the cane variety by any means yet discovered. And, if this could be done, the operation would not pay, owing to the cheaper materials of the cane fields. Only a series of careful experiments could ascertain the value (if any) of honey as a substitute for malt in brewing ale and beer. In both articles there is a constituent of grape sugar, but they differ in other respects, and the best honey might make the poorest ale. Repeated trials on a large scale alone could decide the question whether honey at a price far lower than the present could be substituted, with a profit, for malt. The latter is now far the cheaper, pound for pound, and the experience of ages seems to have settled on it as indispensable for good brews. Honey, we would add, long ago found its way into a drink called "metheglin." This is a mixture of honey and water, boiled, allowed to ferment and sometimes highly spiced. Mankind has not liked it well enough to accept it in lieu of ale—even the poorest home-brewed.

But what shall be done with all the honey? We will tell inquirers how to make a market for honey or any other good thing. Put up a pure article in a neat style and *advertise it very freely*. There is money in that every day in the year. Future customers are all over the world, only waiting to be reached by proper advertising enterprise, and ready to buy honey for that use (the table) to which it is best adapted.

Honey producers can soon test the value of advertising by getting a few honey pamphlets—with their names as producers printed on them and scattering them over their neighborhood. That we believe is the very best way to create a home demand.

☞ Novice intimates that honey in his one-pound sections sells readily in Chicago for 4 cents per pound more than in prize boxes! That is *too thin!* We have them in our office, offering them for sale side by side with the prize boxes, at the same price—giving purchasers their full choice of packages; and it is a positive fact that they take ten of the prize boxes to one of the Novice sections!! "*Facts* are stubborn things!" "Figures will not lie!!" These are trite sayings, but sometimes are very forcible! "Beg pardon, Chicago is a great city," says Novice. In this, at least, he speaketh truly,—but its greatness is not yet satisfied with honey put up in "penny packages."

"LIFE AND HEALTH" is the title of a new eight-page quarto paper, devoted to "physical, mental and moral" development. The first number is on our desk, and is full of good things. It will be published monthly at 30 cents for 6 months. It is published by Dr. Hicks, Wernersville, Berks Co., Pa.

☞ The Alabama State Fair takes place in Montgomery, Nov 5 to 9, 1878. We have received a catalogue and invitation to be present, but cannot attend. Let some fine specimens of honey be on hand. No opportunity should be lost to exhibit the products of the Apiary. Judicious advertising will always pay—and that could not be injudicious. It is high time bee-keepers were awake to their own interests.

Austro-German Congress.

Redaktion des Bienenvater aus Bohmen, Prague, Austria, Sept. 28, 1878.

HERN THOMAS G. NEWMAN, Editor American Bee Journal, Chicago :

Dear Friend :—The German and Austrian Congress of Bee-Keepers, will be held in Prague in August (day not yet fixed), 1879. There will be in connection with it an international exhibition of bee-keepers' furniture. Please employ all of your influence to have as many as possible attend, as our guests. Be well assured that you will receive our kindest and most enthusiastic reception. Accept our most cordial salutations, inviting you and the members of the National Association of America to attend, and you shall receive our thrice-fold welcome.

Our newest invention is made by a clergyman, M. Knoblauch ; it is a device hitherto thought impossible—artificial cells and covering for them. This he has already done at the Congress at Griefswald, in the presence of 700 bee-keepers there assembled.

Expecting your favorable answer, I remain truly your friend and servant, R. MAYERHOFFER.

The above letter came to hand since the close of the session of the National Convention. As that body has voted to have us represent it at the Austro-German Congress, as well as at other European Conventions of Bee-Keepers, provided we can go when the time arrives, we have pleasure in accepting friend Mayerhoffer's invitation to attend, and unless something unforeseen shall hinder us, we expect to be present and take part in the deliberations of that honorable body.

KIND WORDS.—During our brief stay in Hamilton, Canada, in company with that sterling apiarist, Mr. W. G. Walton, of that city, we called upon our quondam friend and co-laborer in the art prservative, Mr. Geo. M. Bagwell, Superintendent of the *Times* Printing Establishment. The next issue of that excellent and valuable paper contained the following :

We received a pleasant call to-day from Mr. T. G. Newman, editor of the AMERICAN BEE JOURNAL, Chicago, Ill., the best publication of its class in America. He is the guest of Mr. W. G. Walton. during his stay here. Mr. Newman was unanimously elected President of the North American Bee-Keepers' Association in New York City, at the annual Convention on the 8th inst., and was also appointed a representative to attend the Congress of European Bee-Keepers, to be held at Prague, Austria, next August, as well as to attend the several Conventions of the Bee Associations in England, France, Italy, Germany and elsewhere, providing his other duties will admit of his absence. He will, no doubt, exhibit the progress of American scientific bee-keeping at each of the Conventions, if he can be present.

☞ We regret to learn that our friend W. M. Kellogg, was taken sick at the Convention at New Boston, Ill., and has not recovered sufficiently to make out a report yet. It may be expected in our next.

And of the rest of the words of this Convention—are they not contained in the Book of King's, vol. vi., 11 ?

In language of similar import did the writer of the ancient Chronicles take comfort! May we not draw consolation, also, from the fact that the essays not contained in this JOURNAL, though read at the National Convention, are inserted in the *Magazine* for this month, and will duly appear in the JOURNAL for December ?

A large portion of the space of this issue of the BEE JOURNAL has been given up to the "Proceedings of the National Convention," knowing full well that thousands are anxiously waiting to ponder them. In order to do this, we have had to omit some departments altogether, and curtail others. This, however, we feel sure our readers will approve.

PETRIFIED HONEY COMB.—While in Seneca Falls, N. Y., our friend and Bro. Wentworth, presented us with a piece of petrified honey comb, which he had found on the stamping-ground of old Chief Seneca, in that county. The cells are perfect (but small) and the capping still more so. What stories could it tell, had it the power to communicate ? Bees of some kind (but perhaps smaller) must have exisited on this continent ages and ages ago—long previous to the present race of humanity now inhabiting it. Perhaps even before the ancient "mound builders," whose "coming and going" may have been witnessed by the tiny little bees of a continent, not only unnamed but wholly unknown to the rest of the world in the ages of the "long ago" We have added it to our Museum for the amusement of our visitors.

☞ There are 6,000 colonies of bees in Jefferson Co., Wis. That is what we should denominate "over-stocking"—if such a thing be possible !

☞ Mr. H. K. Thurber gave his individual check for $1,000, to be applied to the relief of the yellow fever sufferers in the South.

Notes and Queries.

Wilmington, N. C., Oct. 7, 1878.

FRIENDS NEWMAN: I enclose samples of two weeds, with labels attached. No. 1 grows taller than No. 2, averaging about 3 to 4 feet high. No. 2 grows from 1½ to 3 feet high, and its bloom seems all at top of plant, and more compact, round and shapely heads of bloom than No. 1. Both have yellow blooms, and the bees work on each with avidity. While No. 2 grows all about the old fields, No. 1 seems to seek moist, rich locations, on the margins of swamps, marshes, &c. They have been in bloom 12 days. Please give name of each in JOURNAL for November. R. C TAYLOR.

These are both solidagos or golden rods. They are illustrated in Manual of Apiary, p. 243. Species of this genus grow on all kinds of soil,—light, heavy, dry or damp. The honey is of a rich yellowish-brown color, of beautiful flavor, and the plants are covered with bees from early August till frost.

A. J. C.

Wyandotte County, Kansas, Sept. 25, 1878.

I enclose insect. Please give me its scientific and popular name, and tell us something of its habits if it has any. as far as known. The people here tell me it is known as the sweat-bee; that it burrows in the ground like a bumble-bee; that it is more aggressive in its attacks, and that its stings are more painful than either the bumble or honey-bee. They say there is another bee still more aggressive than this one, and more painful in its sting, though of smaller size. Should I be able to get a specimen will send it to you if desired. W. P. HOGARTY.

The insect was badly crushed, yet I was able to identify it as a megachile or tailor-bee, the same as described on p. 36 of Manual. It feeds its young or larva on pollen, which it not only carries on its legs but often dusted all over its body, especially beneath. Its leaf-cutting habits, as also its strange cells, are fully described in the Manual. A. J. C.

Columbus, Kan., Oct. 7, 1878.

Please name enclosed plants. Nos. 1 and 2 are covered with bees every day. There appears to be 5 or 6 varieties of No. 3, but the bees work on this one most. No. 4 is nearly out of bloom; the bees work on it most from the middle of August to the middle of September. No. 5 is the best honey plant that we have; the bees work on it from the first of September until hard frost. I had a single colony gather 150 lbs. in 15 days from this plant. My bees are all in good condition for winter. Will winter on summer stands as usual. H. SCOVELL.

No. 1 and No. 2 are asters. These are referred to and figured on p. 243 of Manual. As there stated they are very admirable as honey plants, while many of them—including the ones sent by Mr. Scovell, are very beautiful. There are about two score of species of this genus in our country, and it is not easy to identify the particnlar species from dried specimens, especially when but a part of the plant is sent; nor is it necessary, as all asters are favorites with the bees.

No. 3 is a solidago or golden rod. For figure and description see Manual, pp. 242 and 243. This belongs to the same family as the asters, and it would seem that all through our country, from Lake to Gulf, and from Ocean to Ocean, there might be a strife between the asters and golden rods as to which should yield the greatest measure of nectar during the autumn harvest. The species of solidagos are about as numerous in the United States as are the asters.

No. 5 is also of the same family. It belongs to the genus bidens, and is so like the flowers of the genus coreopsis that only the botanist can readily determine them apart. I speak of these in Manual, p. 244. These plants are also very valuable for bees.

No. 4 is cassia chamœcrista or partridge pea, the same that was received from A. M. Crosby of Knoxville, Iowa, and named in AMERICAN BEE JOURNAL for September, p. 321. A. J. C.

Washington County, Va., Oct. 22, 1878.

I enclose in an accompanying box, a specimen of a plant growing abundantly in south-western Virginia, and from which bees are storing honey. They gathered more from this plant in the six days of October, than in the previous sixty from all other sources together. A drouth commencing about the middle of July and lasting six or eight weeks, cut off the supply of honey, and colonies were so much reduced in numbers as well as stores, that they were likely to go into winter quarters in a starving condition, but when this plant came into blossom, they went to work with desperate energy, and in a few days had all available combs full of honey, or, to use an old Virginian's expression "are *mighty rich* this fall." Please give the common and botanical name through AMERICAN BEE JOURNAL. G.

The plants which are the subjects of such high praise are asters, which, from our observations here as well as statements made by correspondents (see AMERICAN BEE JOURNAL for October), we are led to believe rank very high as honey plants. They seem also to be indifferent to latitute and climate, nor are they to be ignored on the score of beauty. The flowers before me, as also the ones received last month, are worthy to grace the costliest vase, or decorate the finest parlor. A. J. C.

ALSIKE CLOVER.—In regard to enquiry made by a correspondent in the Sept. No. of AMERICAN BEE JOURNAL, allow me to say: That alsike clover is far better for feeding purposes than red clover. Stock eat it more readily and in preference to other kinds of hay. The only objection to it is, that it has no second growth as with the red. It should be sown with "timothy," as it grows very rank on rich ground. The flavor of alsike honey cannot be surpassed.

O. H. TOWNSEND.

Hubbardston, Mich.

☞Mrs. Isabella D. Lee, of Lonoke, Ark., has land situated in an excellent district for fruit and bee-culture and wants an experienced man to settle there, and start an apiary. If any such are thinking of a new location, a correspondence might be of mutual advantage.

Foreign Notes.

☞ We notice in an English paper of a sale in Lisbon, Portugal, of *sixty tons* of beeswax. "Prodigious."

L'Apiculteur, the French Bee paper, for October, has an article descriptive of the New Langtroth hive, with the manipulating side, illustrated by cuts. Also cuts of the cases for 3 prize boxes as used in that hive. The French apiarists are taking advanced ground and will find the New Langstroth an excellent hive for their purposes.

Foreign Items,

GLEANED BY FRANK BENTON.

THE tenth volume of "*Brehm's Theirleben*" has recently appeared.

OTTO SCHULZ, of Bukow, near Frankfort-on-the-Oder, offered 1,000 marks to the manufacturer of comb foundation, (the same to be exhibited at the bee-keepers' association in Greifswald), whose product should equal his in its beauty, quality, and practical use.

AT the bee-keepers' exhibition in Hagenau, Alsace, a colony of Italian bees having wasp-like bodies was exhibited. They were bred in Bellinzona, Canton of Tessin, Italian Switzerland.

A NOTICEABLE and very practical feature of European bee-conventions is the exhibition that is usually held in connection with each one of them. This is particularly the case in Germany, Italy, and France. At these exhibitions specimens of honey, wax, bees, hives, implements, bee-books, etc., are shown. Prizes are given to the meritorious.

PROF. DR. BUTEROW, of St. Petersburg, Russia, writes: "Except in the provinces of the Baltic sea, we have, unfortunately, very few bee-keepers' associations; only in Kiew there is a society, and in Novgorod a bee-association is about to be established. Our bee-culture shows no especial progress—is rather less flourishing than it was in olden times; however, theoretical knowledge and rational management are really spreading themselves more and more in Russia, and we may well hope that a true period of development in the bee-culture of the country is at hand. The free imperial agricultural society aids, so far as it can, in popularizing bee-culture in Russia; in its journals, there is always a department devoted to apiarian topics, so that this journal may now be looked upon as the organ of Russian bee-culture. The association has published, from time to time, descriptions of various apiarian implements, in order to bring them before the Russian bee-keepers as models. The works of Dzierzon, and of Von Berlepsch (the latter under my editorship and published by the imperial agricultural society), have appeared in Russian translations, and are certainly very influential in the spreading of rational bee-culture in Russia."

TH. VON HELDENREICH, Director of the botanical garden and museum of the University of Athens, Greece, makes the following statements in answer to questions:

1st. Bee-culture in Greece is not an unimportant branch, particularly in Attica, (the honey of Hymettus still keeps up its reputation), in Candia, then in South Euboea; in the vicinity of Karysto, is found a peculiar and delicious honey smelling of roses, called *rhodomeli*, that is, rose honey.

2d. Movable-combs have not been introduced anywhere, and in general arrangements are very primitive; nothing can be said of scientific knowledge among bee-keepers, who are mostly simple country people.

3d. Bee literature does not exist at all.

4th. Apicultural societies are also wanting.

Correspondence.

For the American Bee Journal.

Glucose for Grape Sugar, for Bees.

In answer to my affirmations that solid glucose is as dear as sugar, and less wholesome to feed bees, Mr. Root, in the October number of *Gleanings*, published a long letter, not from a learned chemist, disinterested in the question, but from an interested party—the superintendent of the Davenport glucose factory.

My letters against the use of glucose were not of sufficient importance to entitle them to notice, but the praises of this article are entitled to a place in *Gleanings*. Such is the way that editor practices impartiality!

In that letter (on page 316 of *Gleanings*), Mr. Louis Best, superintendent of the Davenport glucose factory, writes:[1]

[1] "Glucose is a heavy gummy syrup of about 40 per cent. glucose, or grape sugar, 46 or 48 per cent. dextrine (liquid glue), and 12 to 40 per cent. of water."

Of course Mr. Best omits to say that glucose contains lime, sulphuric acid, sucrate of lime, etc. He continues:

"Grape sugar is a concrete mass, without crystallization, of 66 to 70 per cent. grape and glucose sugar, 5 to 6 per cent. dextrine, and the balance water..... Our grape sugar, for feeding bees, is guaranteed to be free from sulphuric acid, and never contains more than 1-50 part of 1 per cent. of sulphate of lime."

At the Bee-Keepers' Convention at Burlington, in May, a bee-keeper exhibited a lump of solid glucose, which he had received from the Davenport factory, through Mr. Root. A chemist, who was there, took a small part of this glucose, and in the afternoon produced a small vial containing about an ounce of a liquid: at the bottom of the vial was a whitish deposit about ¼ of an inch thick. He told us that this white deposit was *terra alba* (white earth) or chalk, contained in the solid glucose that he had taken in the morning.

Here are two affirmations. One from Mr. Best, who says that his solid glucose contains at most 1 part of sulphate of lime in 5,000 parts. The other from a disinterested chemist who, after analysis, shows an immense amount of chalk.

I wonder why bees are so slow in taking a substance containing 66 to 70 per cent. of sugar, while, when they visit the flowers, they bring into the hive a nectar which often contains less than 10 to 20 per cent. of sugar; and especially when we see them eagerly suck milk, wine, beer, cider, etc., if these beverages are mixed with 25 per cent. of sugar, or even less.

Mr. Best acknowledges that his solid glucose has only a sweetening power of 33 per cent., when compared with pure sugar. Then what becomes of the other 35 per cent. of sugar that this solid glucose is said to possess? Honey contains 86 to 88 per cent. of grape sugar. Its sweetening power is equal to 86 or 88 per cent.

Bees live on sugar, and pure sugar is the best food to give them. In solid glucose there is 33 per cent. at most of sugar, which is apparent. In what combination is the other 35 per cent., which are concealed, supposing that they exist? Is not this supposed combination disliked by bees, since they take glucose reluctantly?

Wine made with the addition of honey becomes clear, and ceases fermenting in the fall. Wine made with the addition of solid glucose never ceases to ferment, on account of the sulphuric acid that it contains; it is never well clarified; its color is impaired. Wine made with honey shows its alcohol with the acrometer, while wine made with glucose is heavier than water, and cannot be weighed, as to its alcohol, but with a still, on account of its mineral matters.

How can Mr. Best explain these differences, as he says that the sugar contained in both honey and glucose is the same grape sugar, mixed only with 5 or 6 per cent. of dextrine and water? How is it that liquid glucose, which contains but 40 per cent. of sugar, is worth commercially 5 cents per pound, while solid glucose, containing 70 per cent. of sugar, is sold for 3½ cents? Then the best product is the cheapest. In France it is the reverse: 2,000 lbs. of starch give 2,800 lbs. of liquid glucose. The same quantity of starch gives only 1,867 lbs. of solid glucose. When liquid glucose is worth 5 cents in France, solid glucose is worth 7½ cents. See *Chimie industrielle de Payen.* The present price of glucose in France is: Crystal, 60 to 62; liquid, 40 to 42.—*La Cultivateur*, Sept. 29, 1878.

Mr. Best is right when he says that the manufacture of solid glucose is not forbidden in France. It is the manufacture of granulated glucose, which is charged with such a heavy duty that it cannot be manufactured with profit.

I read, several months ago, that there were riots in Frankfort-on-the-Main, and in several other cities of Germany, on account of the rise in the price of beer, this increase of price being caused by the brewers being prohibited from using glucose in its manufacture.

In addition to the letter of Mr. Best, Mr. Root quotes from Mr. Langstroth's book, page 273. According to the editor of *Gleanings*, Mr. Langstroth says, in reference to grape sugar:

"It can be obtained at a much lower price than cane sugar, and is better adapted to the constitution of the bee, as it constitutes the saccharine matter of honey, and hence is frequently termed honey sugar.

"It may be fed either diluted with boiling water, or in its raw state, moist, as it comes from the factory. In the latter condition, bees consume it slowly, and as there is not the waste that occurs when candy is fed, I think it is better winter food."

After reading the above quotation, I opened Mr. Langstroth's book and read:

"Mr. Wagner has furnished me with the following interesting facts, translated by him from the *Bienen-Zeitung:*

"The Rev. Mr. Kleine says: 'Grape sugar, for correcting sour wines, is now extensively made from potato starch, in various parts on the Rhine, and has been highly recommended for bee food. It can be obtained at a much lower price—'" etc. Then follows that quoted by Mr. Root.

Mr. Root, to help his bad cause, has falsified the quotation, by giving it as the opinion of Mr. Langstroth, while it was only a quotation from a German bee paper!

This falsification will not increase our confidence in the veracity of the editor of *Gleanings.*

I have received from the father of bee-culture in this country, a letter from which I copy the following lines:

"Oxford, O., October 2, 1878.

"MY DEAR SIR :—Please send me your petition, and I will get you some signatures. In the Bee Convention, at Cincinnati, in 1870, I expressed the hope that the time might soon come when extracted honey could be sold at a price which would make it no longer profitable to adulterate it with sugar. That time has about come. I do not believe that either sugar, syrups or honey can be produced profitably at a price which will deter unprincipled men from adulterating them with glucose. Very truly your friend, L. L. LANGSTROTH.

I think this letter, considering its date, a kind of involuntary protest against the course of the editor of *Gleanings*, and the use of his name in favor of glucose!

My friends, I fear this season will prove that comb-honey can no longer be produced at remunerative prices, and that you have to turn your attention to the production of extracted honey. Then is it not to your interest to follow the example of the greatest bee master of our age, by sending a postal card to me for a copy of the petition, to have it signed by your neighbors and returned?

Hamilton, Ill. CHAS. DADANT.

For the American Bee Journal.

Purity vs. Good Working Qualities.

FRIEND NEWMAN :—Much has been said lately, on the standard of purity, and we have been led to ask ourselves the question, can we adopt a standard of purity, that will always secure to us the best working bees? We can see, that it would be easy, for friends Alley and Cary, to adopt a standard of purity, as queen breeders, but for us, as honey producers, to adopt the same standard would be quite another thing. The workers, from different queens, of the same color, and general appearance, show a vast difference as to working qualities; at least such is our experience.

In the spring of 1877, while changing a swarm from one hive to another, we noticed a fine looking orange-colored queen, with the workers all well marked. A neighbor who keeps several colonies of bees was present and remarked, that he would prefer a darker colored queen for business, and we agreed with his decision. No further notice was taken of the colony than of others, till about June 25, when our bees was nearly through swarming. This one had not swarmed but had 60 lbs. of box honey nearly ready to come off. July 3, they gave a fine swarm which was hived. Although the parent colony had none of its queen-cells cut, it never offered to swarm again, and the result, at the end of the season, was 195 lbs. of box honey from the parent and 114 lbs. from the swarm or 309 lbs. from the old colony, in spring.

The queen reared in the old hive was nearly a duplicate of her mother and both colonies wintered without the loss of scarcely a bee, and consumed but little honey in proportion to some of the others. The past season they showed the same disposition, not to swarm, till late; and from the colony with the old queen, we obtained 161 lbs. of box honey, while there were but few other colonies that gave us over 100 lbs. We have reared nearly all our queens from that old queen this season, and find them all to be very prolific layers, as is their mother. We should be entirely satisfied with them, were it not that a part of the young queens are quite dark, and one or two produce some black bees. We have always claimed that a queen reared from a pure mother would never produce a black worker, no matter what drone they met, and have ample proof that our position is correct. Consequently this queen cannot be pure, and if we were to rear queens for sale, as do friends Alley and Cary, we should not dare use this queen to breed from, but for our purpose she is worth more than a dozen of any other queens we have that come fully up to a standard of purity. G. M. DOOLITTLE.

Light-Colored Drones.

REV. M. MAHIN, D. D.

In the October number of the JOURNAL Mr. J. M. Brooks asks me some questions which I will endeavor to answer. He says: "I will ask our friend, If you have a queen that will duplicate herself in her queen progeny, and produces worker bees that show distinctly (without being filled with honey) the three colored bands, and whose drones are as even and uniformly marked as are the workers, with 3 broad colored bands, all other good qualities being present—industry, size, gentleness, etc., I ask, are such queens pure Italian? If yes, why! If they are impure, why?"

I have never seen a queen or colony such as friend Brooks describes. I have never seen one that would uniformly duplicate herself in her queen progeny. I have never seen a colony of Italians having drones uniformly marked with 3 broad colored bands. The colony coming nearest it was not more than half Italian. I do not say that queens producing very light-colored drones are necessarily impure, but that light-colored drones are no evidence of the purity of the queen or of her worker and queen progeny. I have had many queens that had mated with black drones, whose drone progeny were as well marked as any purely-mated queen I ever had, or ever saw.

I believe it to be a fact that queens that have some black blood in them sometimes produce workers and drones that are lighter in color, than any pure Italian bees ever are in Italy or anywhere else. A pure black queen that has been mated with an Italian drone, will produce a few bees lighter than pure Italians, though the majority may show no trace of Italian blood. I cannot account for it, but I have observed it in most colonies, mixed in that way that I have seen. And, if I wanted to breed very light colored drones, I would select a queen whose mother had one-seventh or more of black blood, and had mated with a pure Italian drone. I would not care what kind of a drone the queen herself had mated with, as I believe the Dzierzon theory. If we could breed a strain of bees, which should be uniformly and d stinctly marked, drones as well as workers, it would be desirable; but if there are any such, I have not seen them. I am satisfied with having the workers uniformly three-banded, the bands being free from spots of darker color.

Conventions.

National Convention.

The North American Bee-Keepers' Association met in Cooper's Institute building, New York, on October 8, 1878, President Nellis in the chair, Thos. G. Newman, Secretary.

The minutes of the last meeting were read and approved.

A number of persons gave in their names and paid their membership fees.

The following delegates from local societies announced their presence to co-operate in behalf of their Associations :

B. O. Everett, N. W. Ohio Convention.
A. E. Manum, Addison Co., Vt., Association.
J. W. Porter, Albemarle Co., Va., Association.
G. W. Batty, E. D. Clark and L. C. Root, North-Eastern Bee-Keepers' Association.
A. Reynolds, Western Illinois and Eastern Iowa Convention.
Theo. F. C. Van Allen and H. W. Garrett, Albany Co., N. Y., Association.
T. O. Peet and E. Parmly, N. Y. City Association.

President Nellis then addressed the Convention, as follows :

Ladies and Gentlemen of the National Bee-Keepers' Association:

I cannot but feel thankful to you for the confidence you manifested in choosing me as your presiding officer, and yet I have a sense of regret that I have so poorly performed my duties and advanced the interests of the Association.

Another year of care and labor has passed since last we met, and I hope not without its lessons of knowledge and profit. We have great reasons to thank the Father of Mercies for a continuation of our being, and for the temporal blessings that we, as a nation, and especially as a class, enjoy.

I trust we have assembled to compare our experiences in a spirit of generosity, and that we will carefully guard against quoting as fact, what with us may be only theory. Above all, let our deliberations be characterized by harmony, and by a sense of delicacy that shrinks from saying or doing things in a deliberative body that may wound the feelings of any present.

Although the honey-bee has been domesticated since the earliest period of man's history, yet, not till within a recent date, say half a century, has its culture been made an exclusive or remunerative business.

The apparatus used and management adopted have been so greatly improved, and the business has lately assumed such wonderful proportions, that a retrospective glance astonishes, and the inquiring mind, peering into the future, exclaims, "What next ?"

Although the inventions and improvements of the past year may not have been equal to some of its predecessors, yet we see marked advancement. Bee-keepers are fast adopting standard hives, of which we now have less than half a dozen. Then, too, surplus honey is being stored more uniformly in neat, marketable packages. (Thanks to Messrs. Thurber, for assisting to this desirable end by offering a gold medal.)

The use of comb foundation is becoming universal, and the article has been so much improved that the two greatest objections to it, namely, sagging and breaking down, and a thick, hard centre in box honey that is unpalatable and easily detected, these objections, I say, are now removed, the first by incorporating fine wire in the sheets; the latter by making the bottoms of cells thinner than in the natural comb. I will explain no further. Samples are here on exhibition that will convince the most skeptical.

Recent experiments convince me that at no distant day grape sugar is destined to play an important part in the economy of honey production. It is valuable for stimulating brood-rearing, and seems equally useful as winter food for bees in conjunction with honey. Its low price and adaptability to the purpose named, will soon bring it into general use among bee-keepers.

Intelligent men, whether engaged in a business or contemplating it, desire to know something regarding its future prosperity and advantages. To my mind, the future prospect of bee-culture was never better. So long as the inhabitants of the globe consume over 2,500,000 tons of cane sugar per annum, so long will bee-keeping not be overdone. We must study to economize the labor of production, till we can make a profit and sell honey at the price of cane sugar. Then will we find ready sale for our products in our own neighborhoods, and save the expense and anxiety of marketing, now so manifest.

To accomplish this, we must be energetic, and have a thorough knowledge of the business. In my opinion, too little attention is paid to the fact that localities can be overstocked, with bees—the result no profits, and the owner does not know why. I am convinced that in Central New York, to afford the best results, not more than 60 colonies should be kept on a section (640 acres) of good, fertile, honey-producing land. We grant, there are localities that will sustain three times this number; but I speak in general terms.

From a considerable correspondence, and from, to me, ascertained facts, I believe this average would apply to most other parts of our country. Small apiaries, in the hands of experienced men, produce marvelous results, the public statements of which are not generally accredited. Investigation shows that with these men all things are done properly and in season. A man residing not many miles from me, has for 6 or 8 years kept just 60 colonies, and during that period he has averaged a yearly production of 6,000 lbs. of box honey. He does not indulge in wild aspirations. He has mastered his trade, and has learned the capacity of himself and of his locality. He is accomplishing far more than many with five times his number of colonies, who bluster about, and perhaps ultimately give up bee-keeping in disgust. We must not draw exaggerated pictures of the profits to be secured in bee-culture, but we can say to the man seeking a fair recompense for his labor, that in no other business do we see better prospects for success with so small a capital stock. I know many will accuse me of having an axe to grind, as I sell supplies for the apiary;

but I assure you I am expressing a candid opinion.

I often envy the independence of the man who, when his bees are housed for the winter, has a considerable period in which to visit his friends, and in which to improve his knowledge and intellect. The social advantage of these periods cannot be overestimated.

Of course, I would advise all apiarists to make ample and intelligent preparations before the busy season comes, for, be it remembered, in summer, the man with leisure in winter has his abilities taxed to their full capacity.

I apprehend not so much the over-stocking of the markets with honey as of localities with bees. Note this carefully, and locate your apiary so as not to injure each other.

The great honey product of California will very soon be transported to Europe directly by water, thus leaving us a clear field. Our duty, then, is to thoroughly master our occupation, and use our influence to bring honey into general use—first, by making it compete in price with other sweets; and secondly, by educating the public to its general use. Mr. Newman, of the AMERICAN BEE JOURNAL, has issued a very useful little work that all bee-keepers should circulate in their neighborhoods. I refer to the pamphlet, "Honey as Food and Medicine."

Our English brethren, although not as well advanced as we in bee-culture, have put us to shame in the matter of conventions and displays of bees and their products. I think their manner of exhibiting the manipulations of bees to the general public worthy of our consideration and emulation.

At our last meeting a committee was appointed to consider the best plans for placing the National Association on a permanent footing. I hope the committee can at this time report some feasible method.

System and concerted action are what we need to permanently establish our occupation, and make it take rank among the important industries of the nation. No stronger argument can be presented for encouraging the representative plan of holding conventions than this: That system in management, system in the style of surplus receptacles, and system in marketing of honey, can be developed, while at the same time we come in contact with each other, and with the buyers and consumers of our products, and thus learn their wants and our deficiencies. "Order is heaven's first law," and order and concerted action are necessary to the proper development of any business.

In one of our papers I notice an article regarding the purity of Italian bees, and the writer urges the necessity for an established, recognized standard by which to determine the purity of those bees. I fully endorse that suggestion, and recommend that the matter be considered in this Convention. I throw out as a suggestion, that possibly we can improve the hardy qualities of our bees. You are aware that flies, wasps, bumble-bees, and many other insects, do not chill or get benumbed as quickly as honey-bees. By long and careful breeding, may we not improve our bees in this particular, making them hardier and able to work in weather too cool for them now? I leave this matter to your consideration.

In closing, let me draw your attention to a bad precedent established at the last Convention, viz.: The giving of a present to the retiring President. I suggest that this be not repeated, lest it become an established and pernicious custom.

Requesting that with unselfish purpose, we adjourn from here to some prominent city of the West, I shall not burden you longer.

The Secretary read the following as his report for the past year:

To paid for tables, &c., in Am. Instistitute Fair.		$15 50
To paid for printing addresses and postage.....		25 00
		$40 50
Received from late Treasurer.....	$5 00	
Received membership fees.....	34 00	
		$39 00
Deficit.....		$1 50

In accordance with the resolution passed at our last meeting, your Secretary has had 1,500 copies of "The Facts for the People" printed and mailed to the most influential papers of the nation, and has had marked copies returned containing the Statement of Facts.

Postage. 1,500- 1c.....	$15 00
Envelopes and printing 1,500 copies.....	10 00
	$25 00

Report of committee on "the best means of promoting and advancing the interests of the National Bee-Keepers's Society, and to increase its usefulness:"

"Strike while the iron is hot," is a common saying, and a very good one. It indicates the danger of delay and the importance of prompt action; but Cromwell said, "Make the iron hot by striking,"—thus enforcing another thought, that "Where there is a will there is a way;" that to good sense, industry and perseverance, *no right thing* is impossible! As by continual striking, the cold iron can be heated, so, by constant and well directed work, the most difficult undertakings may be conducted to success!

Two years ago, when we met at Philadelphia, the question was: "*Shall the Society continue to exist?*"—now it is: "How to *increase* its usefulness?" We have had to take Cromwell's advice, and "Make the iron hot by striking!" Now let us "not be weary in well-doing"—and continue the vigorous use of our sledge-hammers; let us demonstrate that we both *can* and *will* bring our undertaking—though it be difficult—to a *complete success*.

I will not weary your patience, but come at once to our recommendations. Three things are essential to the *usefulness* of the Society, and these three things will "promote" and "advance" its interests:

1. It should foster *Local* Societies, seeking a delegation from such at its annual sittings—making this Society, as nearly as possible, a representative body.

2. It should encourage a Local State Exhibition once a year, having manipulations with bees in each State and Territory.

3. It should give its hearty support to these "Bee and Honey Shows," by appointing a suitable person or persons to attend them, and in its name and by its authority, to award a suitable medal for the best exhibit of honey in the most marketable shape, and

a diploma for the most expert handling of bees.

In order to do this, let the amendments to our Constitution of last year be reconsidered, and sections 3 and 10 be reinstated—electing a Vice President in each State and Territory, who shall co-operate with the Society's Representative, in awarding the bee and honey-show prizes in his locality.

To do this, financial aid will be absolutely necessary; but if it be done, a thousand members can be obtained, and the funds thus raised will carry out the provisions of these recommendations, as the Representative should be entitled to call upon the Treasurer for a milage fee of say 3 cents per mile, to cover traveling expenses to and from these honey and bee shows, whenever a medal is to be awarded.

We recommend that a committee be appointed to procure medals and diplomas.

THOMAS G. NEWMAN.

Mr. King, another member of the committee, remarked that the report, as a whole, met with his approval, though some details should be discussed to ascertain the best means of obtaining the desired results.

The report was adopted, and Articles 3 and 10 of the Constitution were reinstated in their former position, having been suspended at the last session.

The following were appointed a committee of arrangements: T. G. Newman, L. C. Root and E. J. Oatman.

Dr. Parmly was appointed Secretary *pro tem.*, in the absence of the Secretary, who was engaged on the committee of arrangements.

A. J. King then read the following essay on the

RISE AND PROGRESS OF BEE-CULTURE.

All the great inventions and discoveries which have developed the resources of the world to a greater extent within the past century, than in all previous time since the creation, have had their origin, more or less remote, in the ages past. The various applications of steam, electricity, the mechanical powers, and the wondrous developments of natural science which have so changed the face of all nature, and the currents of thought within the past few years, are but the accumulations and scientific combinations of ideas and inventions, scattered all along the line of the ages, by the past generations in their onward march from ignorance, superstition and bigotry to intelligence, knowledge and true science. Of all the fields of research in the development of National industries, none are more fruitful, inviting, and instructive to the Antiquarian than the history of the culture of the honey bee, for in all his researches, he will find himself in the company of the wisest and best minds of all ages. Poets, Naturalists, Philosophers, and Doctors of Divinity are all largely represented in its history. Honey was regarded by the Ancients as a present from the Gods, and with it their libations were made around the tombs of those dear to them. With honey they preserved their corpses. With honey their Gods were appeased by pouring it on their altars and the heads of the victims. Honey was the only sweet known until within comparatively modern times. The Holy Scriptures abound in figures of the highest joys and the most exquisite sweetness, drawn from the bee and its delicious product. Aristotle pronounced the honey bee a magazine of the virtues. Virgil, the most elegant of the Latin poets, calls it a ray of the divinity, and chose it as the subject for the best of his Georgics. Shakspeare, Milton, and, in fact, all the prominent writers, have bestowed on the bee, at least a passing notice. DeMonfort, who, in 1646 wrote a work on bees, estimates the number of authors who had written on this subject previous to his time, at between five and six hundred, the larger part of which are lost, but traces of most of them have come down to us through works published in the 17th century. These works, one of which was written by DeMontfort, seems to unite the ideas of the Ancients with those of his own time. And the most romantic and foolish reveries stand side by side with sensible views, and in many instances the two are so badly mixed, that to give in full the various views which have prevailed, at different times in the past history of bee-culture, would bring a result similar to what Milton says of the writings of the Fathers—a huge drag net, brought down the stream of time, filled mostly with sticks and straws, pebbles and shells, sea-weed and mud, with a pearl in the oyster here and there. We shall confine ourself to the merest outline of this history and endeavor to select as many of the pearls as we can, in passing.

Of the antiquity of the bee, we cannot speak positively, but the geological evidences of flowering plants, demanding insects for their fertilization, together with the remains of insect-feeding reptiles, as well as herbivorous animals, places the bee, at least presumably, ages anterior to the creation of man. The positive proofs of its early domestication are ample. The Ancient Egyptian sculpture and tablets abound with hieroglyphics, wherein the bee is the symbol of royalty, their economy being represented with a monarch at its head. In most instances these representations are *rude*, and betray a lack of close observation, as the bee is pictured with two wings and four legs; however, on one tablet of the twelfth-dynasty, the bee is figured correctly, having four wings and six legs. *Shuckard*, in his "British Bees," gives us indications of a still higher antiquity from the *Sanskrit*, wherin *Ma* signifies *honey; Madhupa, honey-drinker*, and *mad-humkara*, honey maker. He also traces the same in the Chinese dialects. The earliest Shemitic and Aryan records, the Book of Job, the Vedas, as well as the Poems of Homer, are conclusive proof of the early domestication of the honey bee, all of which are interesting to the student of Apiculture. Of the origin of bees, the ancients indulged the most extravagant fancies, some contending that they originated from the putrid carcasses of animals, —probably from witnessing the transformation of insects as millers from moth worms, butterflies from caterpillars, etc. They give receipts to produce swarms of bees, the details of which are too disgusting to relate Others, of finer and more poetical concep

tions, imagined that bees were bred from purest juices of the summer flowers. Virgil expresses something of this opinion in the following from the fourth book of his Georgics: "Chiefly you will marvel at this custom, peculiar to the bees, that they neither indulge in conjugal embrace nor softly dissolve their bodies in the joys of love, nor bring forth young with a mother's throes; but they themselves, cull their progeny with their mouths, from leaves and fragrant herbs. They themselves raise up a new king, and little subjects, and build new palaces of waxen realms." With all these false notions of bees, the ancients still possessed much valuable knowledge. To Aristotle and Virgil we are indebted for the first description of the Italian bees, which, until recently had been regarded as a myth. Virgil remarks as follows regarding the two varieties: "For the one looks hideously ugly, as when a parched traveler comes from a very dusty road and spits the dirt out of his dry mouth. The others shine and sparkle with brightness, glittering with gold. This is the better breed. From these at stated seasons of the sky, you may press the luscious honey, yet not so luscious, as pure and fit to correct the hard relish of the grape." Again he says: "There are two sorts, the glorious with refulgent spots of gold, and is distinguished both by his make and conspicuous with glittering scales. The other is horribly deformed with sloth, and ingloriously drags a large belly."

Aristotle lived three hundred years prior to the Christian era. He wrote largely on every department of natural history. His pupil, Alexander the Great, placed at his disposal large sums of money, and employed, during his campaign in Asia, more than a thousand persons in collecting specimens for his use from all parts of the animal kingdom. From his pen and those of his pupils we are indebted for much information of value in bee-culture. Columella about the commencement of the Christian era, wrote a large work on "Husbandry," in which he gives directions for the artificial swarming of bees. Supplying queens to destitute colonies. Transferring hatching brood to weak colonies, and many other useful operations of which the great multitude of bee-keepers are ignorant to this day. Varo and Pliny also wrote in a manner which pre-supposes quite a knowledge of the brood-nest, all of which leads to the belief that in those early classic days a very advanced knowledge of bee-culture prevailed. What is known in history as the "dark ages" now came on, and for the space of nearly fourteen hundred years no progress was made in any department of natural history, but on the contrary much was lost.

At the close of this dark era of mental darkness the celebrated John Ray appeared. He collected and arranged all which survived of the previous productions on entomology. Ray was succeeded by Linneus, the inventor of the binomial system of classification which is still used by all investigators of natural science. At the close of the 17th century Swammerdam, Maraldi and Reaumur wrote extensively on bees and hives, and Shirach, Reims and others still later.

These writers discovered many of the facts connected with the secret workings of the hive, which contributed largely in raising the vail of ignorance which still enshrouded this industry and paved the way for the prince of apiarians—the great Huber, who appeared about the close of the 18th century, and with whose history every apiarist, worthy the name, is more or less acquainted. He it was who combining in one the unicomb observation frames of his day, removed their glass sides and gave to the world the first movable frame bee-hive in existence, and by the aid of which he made those beautiful experiments which placed the science of bee-keeping on the enduring basis of truth. Experiments which established one by one nearly all the wondrous facts connected with the natural history of the honey bee, by the adoption of which bee-keeping has gradually assumed national importance in all civilized countries. It is a fact that the blind Huber, through the eyes of his faithful servant, Francis Burnens, saw more and did more for rational bee-culture than any one man before or since his time. The correct theory once established, prominent naturalists adopted it. Authors and inventors sprang up on every hand, and movable frame hives of different patterns were soon in use in various parts of Europe. Munn, of England; Berlepsch, of Germany, and De Bovois, of France, being the most prominent, and all of whom have written extensively on the subject of bees and hives. It is estimated that from Shirach up to about 1847, one-hundred and twenty-four books were written on bee-keeping. Apiaries sprang up of larger dimensions than ever before; some nobleman owning as high as eight thousand colonies. The discovery of the refining of sugar, made by the Venetians about the middle of the 16th century, was at this time in full blast in Germany and served to distract attention from the production of honey, and sufficiently accounts for its decline about this time.

The engraving and description of the Munn movable frame hive may be found in "Cottage Gardener's Chronicle," London, 1843, page 317, also in the author's pamphlet in 1844. The De Bovois' movable frame hive, which was almost identical with King's American bee-hive, is fully described in the author's large book on apiculture, published in France, in 1847. The Berlepsch hive invented in 1840, was greatly improved in 1845, making it almost identical with the Langstroth. He further improved it and published an illustrated description in the *Bienen Zeitung*, for May, 1852. But bee-culture in Europe was by no means carried on principally by those using movable frames. On the contrary the great majority used either the straw hive, wooden gum or square box, with bars crossing the top, to which the combs were attached, and then either the storifying, nadir and collaterial system were resorted to for surplus honey.

At one time in France bee-keeping was deemed of so much importance that in some places laws were enacted rendering it imperative on every cottager to keep at least three hives of bees, or in lieu thereof

to pay a certain fine into the treasury. In England large rewards were given for the finest display of honey and beeswax of one's own raising, and obtained without sacrificing the lives of the bees. Prominent men wrote books on the subject designed entirely for the benefit of the cottagers, and the same unselfish course is still pursued in Europe.

A brief mention of some of the most useful inventions and discoveries must close our notice of the progress of bee-culture in Europe. Dzierzon discovered the parthenogenesis of the queen bee, and Siebold, Leukart, Berlepsch and other eminent German naturalists demonstrated it. Dzierzon also discovered flour to be a substitute for pollen. Mehring made the first artificial honey comb foundation. Major Von Hruschka invented the honey extractor. The bellows smokers so well adapted to the apiary have been used in all parts of Europe for the past one hundred years or more. Some had straight and some bent nozzles, and some of the nozzles were hinged to the bellows and were turned at right angles for draft when not in use, and also to receive the materials for the smoke. These might have been appropriately called breech-loaders.

Reaumur first described artificial fertilization of queens in confinement. His experiment called the "Amours of the Queen Bee," made under a glass vessel with the drones is exceedingly funny and sounds very modern, but is too lengthy for notice here.

Bees came with the Pilgrim Fathers to America, and were carried by the early pioneers to all parts, until now they are to be found in every portion of the Western Continent, but owing to the many toils and cares incident to the development of a new country, together with their lack of knowledge of the subject, little attention was paid to bees until within the past thirty or forty years.

The first record of a movable frame hive in America may be found in the *Cultivator*, for June, 1840, by Solon Robinson, now of Jacksonville, Florida. The second invention may be found in the *Scientific American* for March 6th, 1847. The inventor, Mr. Shaw, of Hinckly, O., I believe is still living. Movable frames were also used by Marcus Robinson, at Jamaica Plains, Mass., in 1848, and varied in no respect from the Langstroth frame and hive. This on the affidavit of Solon Robinson. The same style of frame was used about the same time at Danvers, Mass., as per the affidavit of Mr. Putnam, of Galesburg, Ill. These affidavits are on record in the office of the Hon. A. F. Perry, corner of Main and Third streets, Cincinnati, Ohio.

Harbison, Townley, Flander, Metcalf and some others claim to have known of movable frame hives between 1845 and 1850. A few books were written on bees about this time, but possessed little merit either in theory or practice.

About 1852 the Rev. L. L. Langstroth patented the hive which still bears his name and which many prominent bee-keepers still use with but slight modifications. This gentleman took hold of the matter in earnest. He sold large portions of the territory covered by his patent to influential and wealthy men who, in connection with himself, introduced the hive far and wide and thus demonstrated that a patent is not necessarily an evil, as many seem to suppose, for it proved in his hands a powerful means of advancing the true science of bee-culture. This he soon followed up with his book "The Hive and the Honey Bee," which is perhaps the most complete and scholarly production of its kind ever written in any age or country, and shows its author to have been perfectly familiar with the best literature on this subject in the Old World, and a perfect master of both the science and practice of bee-keeping. To Mr. Langstroth —although not the first—more than to any other man, are we indebted for the introduction of new races of bees to mix with our own, and thus prevent the evil of in-and-in breeding.

The "Mysteries of Bee-keeping Explained" apneared simultaneously with Mr. L's book. The author, the late lamented M. Quinby, showed in this work a familiarity with the economy of the bee truly astonishing to one writing at that time. It was eminently practical, and did much valuable work for the advancement of rational bee-culture. He also invented the best form of a bellows smoker then in use and this has been further improved by the addition of the direct draft principle invented by Mr. T. F. Bingham, which leaves nothing more to be desired in this line.

Mr. Quinby wrote largely for the Agricultural press of the country. He freely gave all his ideas and inventions to the public for the promotion of the cause he loved, and labored faithfully to raise bee-keeping to the dignity of a distinct profession. The quiet, noble self-sacrificing spirit manifested by this *truly* great man, will be talked of and cherished and felt so long as the keeping of bees shall engage the attention of men. The writings of Mrs. Tupper. the Harbisons, Metcalf, N. H. & H. A. King, Prof. Cook, and others, have done a vast work in bringing about the present advanced stage of bee-keeping in this country. While A. I. Root, T. G. Newman and your humble servant, realizing that "constant dropping wears out a stone," are constantly pelting away at the superstitions and prejudices of the people, and hope, ere long, to end the battle in complete triumph. The most convincing arguments, however, are those which appeal to the *palate*, and *pocket*, and these are being effectually used by Harbison, Hetherington, Doolittle, Betsinger, Clark, C. J. Quinby, and many others, in the shape of tons of honey as beautiful and pure as the nectar which Jupiter sips. And this is being distributed all over the world by Thurber, Quinby, E. & O. Ward, Thorn & Co., of this city, Muth, of Cinn., Vincent, of N. O., and by the large dealers in other cities. We learn from statistics that there are now in the United States about 1,000 different bee hives covered by patent, and a still larger number unpatented. Nearly all the inventions of European origin have been greatly improved by our Yankee ingenuity, and men everywhere are waking up to the importance of this industry as never before. The aggregate yield of honey is largely on

the increase, besides the quality and quantity, and the methods used in America are far superior to any other country, and these facts, taken together, are creating a fear in the minds of some of our most thoughtful apiarists that the prices received for honey may fall below the cost of production, so we will present a few facts which we think may tend to allay these apprehensions. Great Britain consumes annually about 9,000,000 lbs. of sugar for brewing purposes. Other foreign countries, as well as our own country, a proportionally large amount. It is a fact that extracted honey contains a much larger percentage of the elements needed as a substitute for malt than sugar does, and is cheaper at 90 cents a gallon, than sugar is at the lowest prices it has yet reached. A desirable change by substitution is now going on and may be greatly hastened by well directed efforts on the part of honey dealers. Second. Not more than 2-5ths of our people have yet learned to eat honey, not because it is not generally acceptable, but it has never been brought to their notice as a staple article which may be had at the same price as the best quality of syrup, and that it is far more healthful.

Third. A large percentage of the syrups in general use in our families are badly adulterated, and positively unfit for the human stomach, and particularly the stomachs of children. This fact is fast being recognized by the most intelligent of our population, and only needs a little judicious pressing through the papers to displace it, and in its room put extracted honey.

Fourth. Laws against the adulteration of honey, affixing such penalties of fine and imprisonment as shall afford complete protection to the producer, the honey dealer and the consumer. Steps should be at once taken to effect this desirable result, before some other unprincipled honey dealer shall cause Great Britain to give us the second slap in the face through their leading papers, by branding us as a set of swindlers, and warning the English people against the use of American honey.

A petition setting forth this matter in its true light should be presented to Congress at its next session. All the members of this National Convention, including all dealers in honey, should be asked to sign this petition, and a refusal from any cause whatever, should be regarded as favorable to honey adulteration, and producers should be warned against selling such persons their honey. Such a petition, praying for so laudable an object, and backed by so many honorable names, could hardly fail in obtaining the desired law, when extracted honey would at once advance to its true position in all our markets. Bee-keepers everywhere should be united in bringing about these needed reforms, and imitating the politicians, should "keep it before the people" till the end is attained. The journals devoted to bee-keeping should be bold and out-spoken on this subject, regardless of all present emoluments for a contrary course, and for one, I here and now pledge the *Bee-Keeper's Magazine* to this policy without the least equivocation or mental reservation, and I expect to see friend Newman, of the AMERICAN BEE JOURNAL, to join hands, and then, by a rising vote, test the sense of this Association, and thus make a significant stride in the true progress of bee-keeping in this country. A. J. KING.

A vote of thanks was presented to Mr. King for his able address.

An election was then held for officers for the ensuing year. T. G. Newman having been placed in nomination, and the Convention expressing their approval so enthusiastically, it was moved that Mr. A. J. King be instructed to cast the vote of the Convention, by ballot, for him, which was accordingly done, electing him President.

The following were elected Vice Presidents:

J. R. Lee, Huntsville, Ala.
Dr. W. Hipolite, Duvall's Bluff, Ark.
C. J. Fox, San Diego, Cal.
J. L. Peabody, Denver, Col.
F. I. Sage, Wethersfield, Conn.
Jesse B. Watson, Vermillion, Dakota.
Dr. J. W. Keyes, Iola, Fla.
Dr. J. P. H. Brown, Augusta, Ga.
E. J. Oatman, Dundee, Ill.
Rev. M. Mahin, Logansport, Ind.
O. Clute, Iowa City, Iowa.
N. Cameron, Lawrence, Kan.
R. M. Argo, Lowell, Ky.
W. H. Ware, Bayou Goula, La.
Prof. C. H. Fernald, Orono, Me.
D. A. Pike, Smithsburg, Md.
Henry Alley, Wenham, Mass.
Prof. A. J. Cook, Lansing, Mich.
C. F. Greening, Grand Meadow, Minn.
Rev. J. W. McNeill, Crystal Spring, Miss.
Dr. J. W. Greene, Chillicothe, Mo.
George M. Hawley, Lincoln, Neb.
R. C. Taylor, Wilmington, N. C.
J. L. Hubbard, Walpole, N. H.
Rev. J. W. Shearer, Liberty Corners, N. J.
P. H. Elwood, Starkville, N. Y.
B. O. Everett, Toledo, Ohio.
Rev. W. F. Clark, Guelph, Ontario.
W. J. Davis, Youngsville, Pa.
S. C. Dodge, Chattanooga, Tenn.
Judge W. H. Andrews, McKinney, Texas.
John Chatterley, Cedar City, Utah.
J. W. Porter, Charlottesville, Va.
E. W. Hale, Wirt, W. Va.
A. E. Manum, Bristol, Vt.
Christopher Grimm, Jefferson, Wis.
Thomas Valiquet, St. Hilaire, Quebec, Canada.

Some not being members, it was moved they be made honorary members, without the payment of initiation fee, and that they be requested to advance the interests of the Association by correspondence, reporting the condition of bee-keeping in their respective States, &c., and if they cannot act, to name such as can fill these duties.

The following were unanimously elected:

Recording Secretary—Dr. Parmly.
Corresponding Secretary—Prof. Hasbrouck.
Treasurer—J. H. Nellis.

WEDNESDAY MORNING.

After calling the Convention to order, the President delivered the following address:

To meet you on this auspicious occasion is indeed agreeable. To unite with you in the discussion of themes that are all-absorbing to every apiarist, will be to me a pleasure—the more so, because this Association is not only National in name, but also in its influence and might; many of its members being among the foremost in scientific explorations in the apiary, and even their *names* are "household words" around many a distant hearthstone. And when, by means of that mighty lever—the Printing Press—is transmitted to a world your "thoughts that breathe and words that burn"—they echo and re-echo to "earth's remotest bound."

It is exceedingly agreeable to witness the

harmony that has prevailed so far, and now, as the time will be mainly given up to discussions of themes of vast importance—themes upon which we have not arrived at a union of sentiment, let the arguments be strong and well matured, but let no *harsh word* mar the beauty or strength of even one argument or speech. Let us all remember that we speak not only to the hundreds that are present, but also to the thousands that are absent, who in almost breathless silence anxiously await the published report of our proceedings. A stenographic reporter is present who will take down every word we utter—"Let us, therefore, take heed to our lips, that we offend not with our tongue."

What we need is co-operation! Concert of action! Oh! how the weary and burdened soldier on the battle-field, likes to feel that he is not alone—that his elbows touch those of his comrade! How refreshing it is to him to know that a brother is fighting by his side for the same soul-inspiring cause, in defense of the same hallowed principles! How it adds to his assurance, strengthens his nerves, and cheers his spirits!

As a band of brothers we should stand side by side with our fellows, and cheer by our presence, our counsel, and our inspiration, while fighting for the same result.

By a bold and united dash, we may storm the citadel of public opinion—and having "the best honey in the most marketable shape," inscribed upon our banners, we may scale the walls of a "weak market," placing upon the topmost round of public demand an unceasing call for "Delicious and Pure Honey"—while the people from the rising even unto the setting of the sun, may cry, "MORE! MORE! GIVE US MORE!"

It was moved that the President be requested to correspond with the bee-keepers of the country, to induce them to take more interest in Conventions, and to use every means within their power to create a home demand for honey; and as honey shows, once a year, in every State or District, would greatly assist in placing honey in its time-honored position as man's natural sweet, it is earnestly desired that such may be instituted, and our President is requested to give the Vice Presidents all the assistance he can to make such honey shows a success.

Mr. Newman thought that all correspondence should be conducted by the Corresponding Secretary.

Mr. Hasbrouck thought that the President would have more influence with the bee-keepers of the country.

L. C. Root was of the same opinion.

Mr. Newman said he had the interests of the apiary deeply at heart, and would not shrink from any duty assigned him. Carried.

READING OF CORRESPONDENCE.

A letter from the Rev. L. L. Langstroth, regretting his inability to be present. He would have met with a very hearty welcome.

Letters were also read from Mrs. Dunham, A. H. Hart, Wm. M. Kellogg, D. D. Palmer, R. M. Argo, J. M. Shuck, John H. Keippart, J. Whitman, Jr., and Gen. W. G. LeDuc, Commissioner of Agriculture, giving much valuable statistical information.

The following letter from Louisiana was then read:

Brother Bee-Keepers of the National Association:

As the Southern States will probably have little or no representation at your annual meeting, I beg to address you a few words in their behalf. The great distance, consequent heavy traveling expense, scant purses, and busy work of securing our fall honey crop, which comes to us in bountiful quantity just at this time, almost precludes the possibility of our bee-keepers taking an active part in your labors for the general good, but we feel a pride and a deep interest in your work, and hope that at some future day we will have the pleasure of assisting in your discussions of bee-keeping and honey marketing mysteries. We could not offer you any valuable advice or soothing consolation on the subject of wintering, nor could we reasonably hope to win the prize medal for section honey against your Doolittle, Betsinger, Hetherington, Martin and others, but coming to acres of nice yellow bees and tons of liquid nectar, we would ask your kind consideration. That all sections of our country may take a deeper interest in your efforts and proceedings and feel that it is really a national society, I would suggest that your membership might be largely increased, your treasury receipts brought up to a working basis, and your powers and influence for the general good greatly augmented, by appointing the meeting for a different place each year—say next year in Chicago, Cincinnati or St. Louis, the year following in New Orleans or Atlanta, the next in Baltimore, and so on. If such a plan should be adopted I feel sure our people in the South would lend a helping hand.

We have as yet very few well organized and efficient bee-keepers' societies in the South, but they are increasing gradually. The introduction of the Italian bee, the wonderful improvements in hives and apiarian implements, and the immense success of all who have engaged in the business, has attracted the attention of the whole country, and many are now buying bees and locating large apiaries as specialists. Many experienced apiarists are coming to us from the North and West, and with honey-yielding flowers in endless variety and profusion, blooming almost the year round; no expense of cellars, double hives and chaff packing, and no losses of bees from "wintering" and foul brood, who will say that we may not soon astonish the world with our honey productions?.

Yet, with all these advantages, we have some drawbacks that cannot be speedily overcome without organized co-operation. The principal of these is the lack of a home market. Cane sugars and syrups are produced in such abundance, and at such cheap prices, and the people so much accustomed to their use, that there is no demand for honey in our villages, and very little in the large cities. Hence, we are compelled to ship our entire productions to the Northern or Western markets, or to Europe. For this we have cheap transportation by the Mississippi river and the cotton-ships at New Orleans. We have made no shipment direct to Europe yet, but it is probable that

we will look in that direction in the future, as we meet no encouragement in the markets North or West. The cause of this we believe is mainly attributable to the inability of the leading honey dealers, or at least a majority of them, to distinguish between pure natural honey and the adulterated article. As proof of this, I have in the past three years sent several samples of choice machine extracted, pure white clover honey, taken from the hive by myself, to reliable parties in some of the Northern and Western markets to know what prices could be obtained, and the answer in nearly every instance was, that honey dealers and experts pronounced it a manufactured or adulterated article, entirely unfit for table use, almost impossible to sell and only worth the price of glucose for manufacturing purposes. This has been the experience of nearly all our bee-keepers and shippers of honey, and we cannot possibly account for it in any other way than that above stated. It may be possible that our flowers give us a very inferior honey compared to that usually sold in those markets, we might be reconciled to such an idea (possibly), but we cannot have much faith in the judgment of men who say it is adulterated.

In order that you may judge the matter for yourselves, I send, in the care of Mr. Thomas G. Newman, a sample of the same quality of honey referred to above, for the inspection of the Convention. No doubt you will find a marked difference between this and the white clover honey of the North and West, and if I may be allowed, I would suggest that for the benefit of bee-keepers and honey dealers generally, the Convention would call especial notice to this dissimilarity, which is attributable, as I suppose, to a difference in soil and climate. Honey from white clover blossoms in the South is not so light in color—more of a straw or light amber, more transparent, heavier in body, more delicate and smooth in flavor—than the white clover honey of the Northern and Western States, and a still more singular difference is, that while the latter will become solid and opaque by crystallization in a moderately cool temperature, the former retains a perfectly liquid and transparent state, even when subjected to cold several degrees below the freezing point. I have samples of this honey that I have kept exposed to light and the changes of climate several years, still it retains its original form. Mr. Chas. F. Muth, of Cincinnati, the leading honey dealer in the West, furnishes me with an instance where several barrels of this honey was left in the open air, on the sidewalk by his store, for many days and nights when the weather was extremely cold, the mercury reaching several degrees below zero, but on examination the honey was found to be still liquid.

Prof. Cook, in his late excellent work ("Manual of the Apiary") says: "Some honey, as that from the South, and some from California, seems to remain liquid indefinitely." As far as my experience extends, this is only true of honey taken from white clover blossoms, all other kinds crystallizing perfectly solid on the approach of freezing weather. Prof. Cook also says: "Some kinds of our own honey crystallize much more readily than others. But that granulation is a test that honey is pure is untrue."

In conclusion, gentlemen, permit me to express the hope that the Society may experience a pleasant and profitable meeting, and that you will endorse and actively assist the efforts now being made by some of our most intelligent bee-keepers, to get Congress to pass a law prohibiting the adulteration of honey and other sweets.

Very respectfully yours,

WILLIAM H. WARE.

Bayou Goula P. O., Iberville Parish, La., October 1st, 1878.

NOTE.—The accompanying honey was perfectly capped to bottom of frame before being extracted, which makes it several shades darker than if taken before capped, as is usually done for exhibition purposes. It is not a selected sample, but was drawn from a tank of 160 gallons, so that it may faithfully represent an average of what we usually put up for market. W. H. W.

The samples of honey did not arrive, and it was subsequently learned that they were sent by mail and broken *en route*.

President Newman regretted this lack of regard for the rules of the post office. Carelessness in mailing queens had brought upon us the present stringent rules which were against the interests of bee-keepers.

Fertilization in Confinement.

If I could have my choice, I would postpone the discussion of this subject for another year at least, for the fact is, that owing, as I prefer to think, largely to the past untavorable season in this locality, and to the unavoidable delays in experiments of this kind, I have not yet been able to put to the test some plans I have for so modifying my methods as to make them generally useful. My efforts have been directed mainly towards devising means for re-queening an apiary cheaply, and with stock whose character we could control. And what I have accomplished is adapted only, and perhaps not well, to this purpose. I have received so many inquiries on the subject, which I have put off with a promise to unbosom myself fully at this time, that I am constrained to tell what I have found out thus far, although I realize that the matter is still incomplete and might, perhaps, rather not be told.

In the first place, I have found out the main fact, that queens can be fertilized in confinement, and have satisfied myself that those who have stated for a number of years past that this was possible, did not probably observe incorrectly, and were stating the simple truth, although they have received a good deal of ridicule, and have even quite frequently been called hard names. It is a strange fact, that bee-men generally consider the thing so preposterous that they will not try to see whether it can be done or not, or if they try, do so in such a careless, indifferent way, that nothing comes of the experiment but the conclusion that they were fools for trying it. Men seem to think that there are some *a priori* reasons why the thing cannot be done, and finally, the distinguished author of the "New Manual of the Apiary"

has attempted to formulate the reasons, thus: 1st. Because the mating must take place on the wing, as it is probably necessary that the air-sacs of the drones should be distended; and, 2d. Because the drones are cowards.

To the first it is only necessary to say, that nobody, as far as I know, has proposed to confine the sexes closely, that they could not fly; and to the 2d I answer, that I could never see much signs of cowardice in drones, except when the workers are chasing them with murderous intent, and then, having no weapons of defense, what could they do but run. At ordinary times, they seem to me to be a fearless, self-assured race, not hesitating even to venture into a strange hive, and investigating everything—even the lords of creation, without an appearance of timidity. There was once a man who went to Boston, and, as he leaned against a lamp-post, he expressed his views of the place thus: "I never before saw another such place as this. Everything appears to be reeling around and trying to stand on its head." Now, we know that these antics of the hub of the universe were "all in his eye," and so this question of the courage of drones may depend altogether upon the eyes of those who watch them. To me, at least, they appear to know no fear. If they are shut up, they quite naturally want to get out, but they don't seem to be much scared about it, and are not so intent on regaining their liberty as not to avail themselves of the great opportunity for which alone they live, and which they seem to be constantly seeking, if it is thrown into their way so that they cannot help but notice it. Now, beside these two reasons, which appear to me to amount to nothing, can any one think of another that would seem to make it more unlikely, that two bees would mate when put alone into a box, than that a pair of rabbits would under similar circumstances. There are several conditions to be observed, some of which are absolutely necessary to success, and others which hasten it.

1st. The queen must have been immediately before in contact with the bees of a hive, not necessarily loose on a comb, and must have left them of her own choice to seek a mate. She must be left entirely to follow her own inclinations and instinct, and I suppose the principal reason why parties who have tried to mate bees have failed, is, that they have opened a hive, picked out the queen, and tried to force her to serve their convenience.

2d. She must meet the drone in a small place—the nearer to a 3 in. cubical box the better, with glass on top only—standing in the bright sunlight. It is not impossible for them to mate in a green house, but if a queen and several drones should be released in such a place, they would be likely to strike the glass at considerable distances from each other, and each would stay near the place first struck, trying to get out, and so it would be quite improbable that they would come anywhere within notice of each other. The more contracted the place, yet leaving them room to fly a little, the more certainly and splendidly will they meet. I have used boxes with glass sides with success, but you are more apt to fail than if there is glass only on the top. They scarcely touch the top glass even with their heads, but fly just below it, in the seeming attitude of inspection of their surrondings, and do not become so excited and intent on getting out as when they fly against a vertical glass.

3d. She must not be exposed to the least daubing of honey. Daubing hinders her flight, and takes much of her attention in efforts to clean herself, and thus her time will be gone before she has attended to the business upon which she started.

4th. Preferably, but one drone and no bees must be put with her into the fertilizing box. The presence of more seems to irritate her, and she tries to get away from them.

I have found out, moreover, that there is not just one particular way in which queens may be fertilized in confinement, and no other. If the above conditions are observed the question is, how not to secure their fertilization if you shut them up in the same box, and give them a little time. I have seen various methods described, most of which I am sure would answer; but the objection to which generally is, that they are more troublesome than necessary. About a year after I had devised the method I employ, I read of a plan similar to it, in all essentials, published, in 1871, in *The Bee-Keepers' Journal and National Agriculturist*, but my way is rather more simple in details. I would remark here, that I think any plan in which the queen and drones are to be detained in a box, attached to the hive, through a 5-32 inch passage, is not to be trusted; for I have proved to my satisfaction, that a virgin queen will pass through as narrow an opening as a worker can.

The method I use is as follows: I have my queens hatched in queen nursery cages, not put down into the hive as they usually are, but set into a rack on top of the frames. The cages have coarse wire cloth bottoms, and glass tops. I can set about 36 on the 8 frames of a hive. As I use side surplus boxes, this does not interfere with honey gathering. Into these I put the cells as near matured as I can get them with safety. I supply them, on a small wire cloth shelf with a little honey in the comb, nicely cleaned by bees. I cover all with a woolen blanket and watch them quite closely through the glass covers to see when the queens hatch. When a queen is 4 days old, about 1 p.m., on a fine day, I take a fertilizing box with a glass top large enough to cover one-sixth of the cages on the hive, and 3 inches deep, and opening a slide in the bottom, I place it before the entrance of a hive containing my fine drones. I slide the glass top a little to let the workers out, and wait till I have caught a drone that suits me. I now shut the top, remove the box, and place it over the cages on the queen-rearing hive, taking off the blanket and removing the glass cover from the cage whose queen I wish to fertilize, so she can walk up into the fertilizing box when she chooses. I can set 6 such boxes over the cages, each charged with a drone. I now take my hoe and go to hoeing corn somewhere near, occasionally going to look how things go on. If I find a drone dead in any of the boxes and the queen

bearing evidences of the success of the operation, I remove her, put in another drone, and open another cage. If a queen does not come up in a half hour or so, I conclude she is not anxious, and shut her up to try another time. If I have good luck I can get through with a dozen in an afternoon, and with all in three days. But I have never done quite so well as that. Ordinarily, it takes 5 or 6 days to get the most of a batch fertilized, and there will be some that seem to get started wrong, and they have to be put back several times, and finally starve to death before they are fertilized, or get too old to care about it longer, and have to be thrown away at last. Two or three times, when I have felt real lazy and had not much to do, I have sat down and watched the process, but one requires a good deal of patience to do it. It is as bad as fishing. First, the queen sits down on the side of the box and rubs herself indefinitely. She has a little honey on her likely. Finally, she begins to get clean and she takes a fly up toward the glass. Just then the drone is exploring the bottom of the box, or has gone down into the cage and stays provokingly. By and by the queen gets tired of flying, and settles on the bottom and rubs herself again. Now the drone comes up, he crawls around the bottom of the box, not deigning to notice the queen. Then he stands still, and *she* begins to tramp in a very excited manner; but she seems to ignore the presence of the drone, and he hers. But stop! there, she has found him. She caresses him, walks over him back and forth, pushes him around and pushes herself under him, and you are all awake, thinking the critical moment has come; but there the unfeeling brute stands, perfectly stupid and impassive, and you feel like taking him out and pinching his head. By-and-by, he gets up and flies to the glass for a little exercise, for variety. Now the queen is at the bottom, still further smoothing her exterior. You are disgusted, and conclude you will go and take a drink—of water, of course. After a while you walk leisurely back and there, as sure as fate, lies the drone on the bottom dead, and the queen is running about wriggling and rubbing herself with the well-known appendage attached, and the affair is over. You probably call yourself a fool, and resolve that the next time "you'll be in at the death."

You fix things again and watch, with a repetition of former experiences, till, all at once, you notice in one of the boxes a queen and a drone flying at the same time, now, again, you are all eagerness; but the drone persists in flying toward one corner, till he is tired and settles. The queen continues flying a while longer and she settles, just as the drone is ready to rise again. So the thing goes on till you begin to think that it was all a matter of chance before, and you don't believe it would happen again in a month, when all at once they are both up near the glass again. They turn toward each other an instant—there is a great commotion. They go dashing against the top and the sides and the bottom of the box, around and around—you can't see them—you can only hear— till suddenly the drone lies dead, and the queen is running uneasily around, and the thing is accomplished. It all took place before your eyes, but you saw nothing. You cannot tell who began it, nor anything of the position, nor how the queen tore herself loose. I've seen the operation twice in a box, and once on a window, but can answer none of these questions.

You will undoubtedly ask me if I consider the plan perfectly practicable and satisfactory. Well, sometimes I do, and sometimes I don't. Last fall I had such excellent success with it, that I thought it left nothing to be desired; but during *this* execrable season I have had so much trouble and annoyance and loss with it, that at one time I had concluded to abandon it entirely, and go back to nuclei for raising queens, and to try and perfect some method of fertilization, if possible, in connection with them. But after suffering *more* trouble and annoyance and loss *with the nuclei*. I concluded to try my cages once more, and lately have had good success with them with Cyprian queens.

You ask, What is the trouble? It begins here. You have a lot of cells 9 days old. You wish to let them get as old as possible before putting them into the cages, and you conclude you will risk them a couple of days yet, keeping a strict watch over them in the meantime. Have you not noticed that such a state of things was sure to bring on a cold rain storm this summer, a week long, so that you could not get into a hive even with an umbrella? And, of course, when the rain clears off one queen has hatched and all the other cells have a neat little hole in the side, and your great expectations have vanished. You start a lot more from larva all hatched the same day, so the queens will come out all about the same time, and you double and quadruple the number, and start them in succession so that if you lose most, *some*, at least, will come out between storms—it can't rain *all* the time, even this summer—and at last you have a supply of cells for your cages. Now the young queens are all hatched and just old enough for you to begin to get them fertilized. This is another condition of affairs which this year has brought rain as certainly as 4th of July used to do, when we were boys. It rains and rains for 3 or 4 days, then it stops, and is overcast for a couple of days more, then another storm commences, and before you get sun-light to bring your queens out, they are all starved in the cages, or the few remnants are too old to operate upon sucessfully. This thing has happened with me over and over again the past season.

Then, again, the queens are difficult to be introduced. Within half an hour after they are fertilized they may be taken out and suffered to run into the entrance of any queenless hive with perfect safety; but if you cage them again, and keep them beyond this time, it is almost impossible to introduce them in any way that I know of. They seem to be worse than virgins. I have introduced virgin queens from the Jewell Davis nursery cages, by the Mitchell plan, to nuclei, without a loss of more than 3 out of 12; but by the same plan of introducing, I have, every time this summer that I have tried, lost more than half, and out of one

batch every one. I would not suspect this difficulty, but it is a fact. Consequently, it will not pay to raise dollar queens by this process, as far as I understand it at present. If you must introduce the queens, at a great risk of loss, to nuclei to get them laying before they are salable, better raise them in the nucleus from the first. If it had not been for this unfortunate difficulty, I say, frankly, I should not have told what I have about it, and I should have made a sensation in cheap queens.

As much as I know about queens fertilized in confinement, I have told. I, of course, expect that there will still be those who will say it can't be done, and never has been, but if I shall have succeeded in stimulating any to work with me in this field, until we can solve to the satisfaction of ourselves and others this most neglected and most important of all problems to the bee-fancier —now doubly important since the arrival of the Cyprians—I shall feel repaid for my efforts, and the opprobious epithets which have silenced others, and which I suppose I have reason to expect from some of our not very enterprising contemporaries, will not hurt my feeings. J. HASBROUCK.

Flat Brook, N. J.

Mr. Oatman asked what Mr. Hasbrouck expected to gain from this, and he replied that it enabled him to keep different races in the same apiary distinct, or cross-breed, as he may desire, and he had hoped thereby to cheapen the rearing of queens. He is satisfied that by other means practiced one cannot afford to rear queens for a dollar. The great difficulty in introducing queens so fertilized, except within half an hour after the act, is a drawback to its general use.

Mr. Nellis had nothing to state except the failure of his experiments.

Mr. Oatman. This is a serious and important question, if cross-breeding can increase the production of our bees. He moved a vote of thanks to Prof. Hasbrouck for his able address, with the request that he continue the investigation of the subject.

L. C. Root. This is a matter of more importance than generally considered. We aim to rear our queens from our best colonies, and therefore we should be most particular in selecting the mother as well as the drone. We have no control of this in the natural way. I have experimented largely, but never met with success, and am looking anxiously to have this a success, as it is of great importance.

Mr. Alley will try the method as soon as he reaches home.

Nr. Newman thinks it important, and next to the production and marketing of honey.

Mr. Root has noticed some colonies having very superior drones, and has earnestly wished that his queens might be fertilized by such drones.

Mr. Hasbrouck does not know that he is giving too much importance to the subject, but is surprised that more have not succeeded.

Mr. Oatman. Will a queen hatched in a hive have any disadvantage over a queen hatched in a cage ?

Mr. Hasbrouck. None ; I only hatch in a cage for convenience to save time in looking for them.

Mr. Root further stated his experience while with the late Mr. Quinby. Gave Mrs. Tupper $10.00 for her method and failed. First he made a box, then a house eight feet square. Placed a nucleus in the house containing only young worker bees. Once saw the drones appearing to notice the queen. I should expect if I caught a virgin queen leaving the hive that would be the most opportune moment for the experiment and I hope our members will experiment.

Bee Pasturage.

There are many important questions related to the topic with which your committee honored me, in making their assignments for essays to be read at this annual gathering. The fact that all our honey is gathered in a few brief weeks of a long season, is a suggestive one. The fact that the quality of honey, both as to appearance and flavor, is as varied as the plants from which it is gathered, must interest the practical bee-keeper. That many honey-plants are very susceptible to external circumstances, ever varying in the amount of their secretions with climatic and other conditions, as also that there is great variation among different plants, in the degree of this sensitiveness, are questions of great interest to the thinking apiarist. The fact that bees are also wonderfully susceptible to exterior circumstances, and only do their best at times of general prosperity, is also of interest in this connection.

Much of interest and value connected with these questions, is now the common property of all intelligent patrons of our art. Much more is yet hidden from our view, waiting to be drawn forth from its seclusion by the keen instruments of the scientist, or to be discovered to the world by the sharp vision of the observing bee-keeper.

I deeply regret that I am not able to throw more light upon this important subject; yet I shall not be wholly dissatisfied if I can even let fall a single faint gleam, either by way of actual information, or of suggestion that perchance may lead to wider knowledge.

LONGER AND MORE CONTINUOUS HONEY SEASON.

It is well known to all present, that even in the most favored localities, the aggregate time of active storing, during the best seasons, is hardly twelve weeks—one in May, fruit blossoms ; four in June, white clover and raspberries ; two in July, basswood ; and five in August and September, golden rod, boneset, etc. For most seasons and localities, the above is twice too great. Now this time—were there but flowers to attract the bees from the time of the early willow and maple till the autumn frosts—might be more than doubled. The question, then, of replacing these periods of dearth and idleness—I might say of robbing and irritableness—with those of bloom and industry, becomes one of no small moment. You all know, by the fruitful observation of the past, that could you replace idleness with activity, it would be more than a net gain, as it is no injury to the bees ; in fact, our bees never come through the season in such good condition as when the time of secretion is longest and most continuous. Can we

then, by any means, secure a continuous pasturage for our bees? This would seem the most difficult in April and May. Yet, who has failed to notice the gay, coquettish dandelions, and their success in winning bee-suitors, even at this dawn of the season? Might we not, then, secure a golden, if not a "gold basis," by planting an acre of these sprightly gems of the early year? From the attention which the bees pay these flowers, as also from the family to which they belong—Compositæ—we should be led to rank them high as honey plants, till actual experience proves the reverse. It was suggested in a recent number of one of our bee-journals that the roots of these plants might be utilized, as, when properly prepared, they furnished a not unpalatable substitute for coffee, though I must confess to a personal prejudice in favor of No. 1 Java.

The time of dearth between white clover and basswood can be canceled by constantly cutting back the white clover. Our College lawns were mown, the past season, once in every three days. This kept the white clover in bloom, and made the harvest from this source lap on to that of basswood. Or we may secure bloom from any of the following plants: Rape, mustard, mignonette or motherwort. Rape and white mustard, on light soil, with good cultivation, will bloom in about four weeks from sowing; black mustard, about eight weeks. Mignonette, if sown early, will be in bloom before the white clover is gone, and continue through the season. Motherwort, in this latitude, will fairly hum with bees from June 25th to July 20th. Which of the above plants can be grown with the greatest profit? is a question which experience alone will answer.

To bridge the chasm between basswood and fall bloom, or to supply the absence of native fall flowers, we have rape and mustards—which can be made to bloom at will after the middle of June; mignonette, motherwort—whose bloom I think could be deferred by cutting in May; catnip, which commences to bloom early in July, and is covered with bees for about two months; cleome, which blooms from July to September, and in favorable weather is alive with bees; and borage. From reports in the bee journals, I presume I might add figwort to the above list. Surely the above is, by no means, a discouraging array. I wish I could state the acreage of each of the above, which would suffice to keep fifty or one hundred colonies busy, as the season's average; but I know of no accurate data from which to form an opinion. My friend, Mr. Fisk Bangs, from an experiment with three acres of black mustard the past season, feels sure that this amount will keep eighty colonies fully active. May I not suggest that each of you who has or can command a few acres of land, make one definite experiment each year, and report the results at these annual gatherings. Who can tell what practical results might flow from such a course? From our experiments here, I am assured that we may augment our profits by securing a continuous pasturage as suggested above. Which plants are most desirable for honey, and for added profits in market value of seed, I am not able to state.

QUALITY OF HONEY.

Every person here has admired the immaculate honey secured from the white clover and basswood. Most of you have tested its excellence with even more pleasure. All have observed the less inviting appearance of buckwheat honey; most have regarded the flavor of this with less favor. Many of us have noted the rich brown color of honey gathered from the bonesets and golden rods, and have spoken its praise as we tested its incomparable excellence. We know from its European reputation, that rape honey is beautiful and of exquisite flavor. Mr. Fisk Bangs, the past season, has proved the same to be true of that from mustard. The color is a rich golden yellow, the taste delicious. The honey from mignonette, cleome, teasel and the mints, has been commended for its fine quality and beautiful appearance. Yet, notwithstanding all this, we still have much to learn of the real character, physical and chemical, of the various kinds of nectar. Nor will any one question the practical character of this knowledge, who has carried his light and dark honey to market, exhibiting the same to the buyer, side by side.

Prof. R. F. Kedzie, of the chemical department of this College, is now making analyses of all the kinds of honey that he can obtain, that are purely from the flowers of a single species of plants. May I not ask each of you, whenever you have any honey that you *know* to be from the flowers of a certain plant, that you note the color, the flavor, and ask others to test the same with you, that error from the personal equation—so to speak—may be removed, and then send a generous sample to Prof. Kedzie for analysis. The honey may be sent by mail, safely and cheaply, if prepared as follows: Bore an inch hole into the edge of a thoroughly seasoned two-inch plank, to a depth of four inches. Then trim off with a saw till the piece is about two inches square and five inches long. Now fill with honey, tightly plug, and write on the wood, "Prof. R. F. Kedzie, Lansing, Mich.," adding five or six cents postage, as the postmaster shall direct, when it is ready to mail. At the same time send a postal which shall inform Prof. Kedzie who you are, your address, the kind of honey, also whether the flowers grew on sand or clay, on high land or low, whether the season was wet or dry when the honey was gathered, and whether the yield was abundant or light. Are not some of you ready to do this at once? Such a course, generally adopted, will give us very valuable knowledge in a direction new, yet very practical.

HONEY PLANTS CAPRICIOUS.

That plants have moods, no observing apiarist can doubt. Let the weather be very wet, and secretion of nectar stops. It is the same if the weather is very dry. We have all observed that, some seasons, the nectar of white clover, basswood and buckwheat would fairly flood the hives. Yet, the next season, though the flowers were no less abundant, the nectar was almost wanting.

Flowers, also, like people, seem to vary in their power to fortify against adversity. We have noticed that the mustards, borage,

catnip. and especially motherwort, seem ever ready to yield their precious sweets, while most plants are alike susceptible to moisture or drouth, and at times of these extremes, utterly refuse to yield their usual gifts of the coveted nectar. Some plants, too, like borage, seem not to be favorites, and only attract the bees, in numbers, when other plants refuse to secrete. The past season we have tried a number of plants from Bohemia, and other parts of Austria and Southeastern Europe, some of which came recommended very highly as honey plants. But, to our surprise, none have proved successful. Can it be possible that plants become home-sick, or rather, that in being acclimated their constitutions become so disturbed that they are unable to distill the precious sweets. At least I do not think a single season's results a crucial test, and shall certainly give them a second trial.

How desirable that careful experiment shall discover to us the law which governs nectar secretion, as also the flowers or plants which are most indifferent to varied conditions of atmosphere, and thus most desirable for bee forage.

THE INDUSTRY AND THRIFT OF THE BEES COMMENSURABLE WITH PERSISTENCY OF HONEY SECRETION OR BEE FORAGE.

I have been led by my experience for the past three years, to attach no little importance to this last division of our subject. I have noticed that even our small beds, occupying but a few square rods, served the purpose of stimulative feeding, thus keeping the bees breeding during the usual interims, not only of storing, but of rapid brood-rearing as well. This continuous breeding keeps the hives crowded with bees, and ready to take the fullest advantage of the brief harvest, when the honey seems to come in floods. Our experiments here, for three successive seasons, some years since, as given in the AMERICAN BEE JOURNAL, showed conclusively that stimulative feeding, during the periods of summer when the bees were inactive, was very remunerative and desirable. I now believe that the cheapest and best method to practice this, is to plant a few square rods with well selected honey-plants. Each bee-keeper, by studying his locality, may soon learn the periods when no nectar is to be expected, and so arrange that a plat of rape, mustard, catnip, motherwort, mignonette or cleome, shall open their showy petals, and offer their tempting nectar. In this way even small beds of our most choice honey plants will not only add to the beauty and interest of the apiary grounds, but will also swell the profits of the apiary. This is a cheap and agreeable way to practice stimulative feeding.

Regretting that I cannot join in your social greetings, and profit by the able discussions and valuable exchange of opinions, which I am sure will characterize your gathering, I sincerely hope and trust that the harmony and entire freedom from aspersions which shall attend your proceedings, and the great value of your deliberations, will convince even the most skeptical, that association among apiarists, as among all other classes, means progress. A. J. COOK.

Agricultural College, Lansing, Mich.

A vote of thanks was unanimously passed to Prof. Cook for his very able paper on Bee Pasturage.

Rational System of Wintering Bees.

Fellow Bee-Keepers of the National Convention:

How to successfully and profitably winter bees, seems still to be the puzzing problem with many of our apiarists, and as the season is now rapidly approaching when our little, busy pets are housed for a number of months, it becomes us to adopt the best system possible so as to secure their health and comfort.

This subject engaged my attention for a number of years, as year after year a number of colonies were lost, and some apiaries entirely depopulated.

Other domesticated stock can be wintered without loss, and why cannot bees be wintered in an economical way with the same degree of safety and certainty?

I have wintered in many different ways, but when brought to the severe test of a long and cold winter, all have proven unsatisfactory except one, which I first commenced experimenting with in the winter of 1870-71, and perfected in the fall of 1873, and I am now persuaded this is the only correct and rational system, as it secures protection against cold, and imperceptibly passes off the moisture exhaled by the bees, and also guards against the sudden changes of temperature. Unless these three things are provided for, the bees must suffer.

Upward ventilation, whilst it passes off moisture, if direct, will also permit all the warmth that is generated by the clustered bees to escape.

Warmth being absolutely necessary for their existence as well as comfort, hence, if this passes away too rapidly, a much larger consumption of honey ensues to generate an extra supply of warmth. It also causes an unnatural degree of activity of the colony, which is very objectionable in cold weather. As the warm air escapes, the bees suffer cold, and from the excessive amount of food consumed, undue activity and exposure to a continually changing temperature, disease and death follow. (By referring to my journal, I find that in the winter of 1872-73 I lost all my colonies having direct upward ventilation, while those properly cared for had no trace of sickness.)

If no upward ventilation is provided, the moisture exhaled by the bees condenses and forms ice on the walls and top of the hive, making their home very uncomfortable in cold weather, and as soon as the weather moderates sufficiently, the ice above and at the sides melts, causing wet and damp combs to say the least. In many cases the water comes in direct contact with the combs occupied by the cluster. When this occurs, and the temperature lowers suddenly—as it often does in mid-winter—the colony is lost.

It is true, bees can be wintered in a good dark cellar specially prepared to receive them, but not every bee-keeper is thus situated. But look at those bees when taken out in the spring, and how many mouldy combs and debilitated bees do you find? After such colonies are placed on the sum-

mer stands in the apiary, perhaps for a fortnight, they do not contain over one-half their numbers when taken from the cellar, and why? Because the bees being unnaturally confined, living in an impure atmosphere, under-ground, have not sufficient vitality, and when they fly away from their hives they cannot return. This is what is generally termed "spring dwindling."

Bees in plain box hives, whether movable comb or not, sometimes winter on the summer stand if left alone without any care; but this is only an exception, and not the rule, for if those same colonies had the proper protection, they would have consumed much less nutriment, and contain more bees and brood at the opening of spring; and during winter, when cold and piercing storms are raging, the apiarist who properly winters his pets, can sit in his comfortable room and feel happy and contented, knowing that his bees are also comfortable and enjoying their long winter rest.

The condition of the colony in the fall has a great deal to do with successful wintering. A colony, to winter well and be ready for early spring work must contain—First, a goodly number of workers; second, a healthy, prolific queen; third, abundance of honey and pollen stored in clean comb. Thirty to forty pounds of honey is not detrimental, although twenty-five will do—more is an advantage in this latitude. I never found a single colony suffer from too much honey, if properly handled—many good and much-respected authorities to the contrary do not alter the fact. I am satisfied that where one colony suffers from too much honey, ten thousand suffer from not having enough. I never saw a colony on the first of October that had not some empty comb or comb with brood. If honey is plenty, then empty or brood cells are in the lower front corners of the combs, just where they should be, and until extreme cold weather sets in, which in this locality—south-western Pennsylvania—usually occurs the latter part of November, enough honey is consumed to give plenty room for the swarm to cluster. I am now speaking of colonies having good laying queens, my experience since 1868 having been with Italians.

Bees can also cluster on sealed honey-combs and not suffer. Here I am again on forbidden ground. But I array facts against theory, for I have often found in my observations, when the mercury was visiting in the vicinity of zero, bees nicely clustered against their warm woolen quilts, although all seven frames were filled and sealed for at least 4 to 6 inches from the top-bar of frame downward, the rear ends of the frames generally being full of honey. This can only be done when the warmth is retained so that the combs can be kept warm by the bees. This, however, cannot be done by a single wall hive, or in any hive having a honey-board, although it may have a dozen inch-holes, as moisture will condense, and warmth escape too rapidly.

Another point that must not be overlooked is the number and shape of combs. To try to winter with ten or eleven frames is an error. More than seven frames are positively injurious—for medium colonies, five frames are enough. Bees cannot move from one side of the brood-chamber to the other, on to new combs, in cold weather, without chilling, and this is why many colonies are reduced or altogether lost in hives having a large number of frames. By using a comb about 10 inches deep and 18 inches from front to rear, the honey is always above and rearward of the bees, and as the honey nearest the swarm is consumed, the bees can easily follow for fresh supplies, without changing combs.

To fully secure the bees against cold and the sudden changes of temperature, and to insensibly pass off the moisture exhaled by the bees, I have made the Combination Movable-Comb Bee-House, which in winter consists of the brood-chamber and the outer case or house. A dead-air space of 4 inches being all around between the brood-chamber and inside walls of the house, and a space 7 inches from top-bar of frames to upper edge of outer case or house. The frames have open tops and closed ends, being 13 inches deep and 19 inches from front to rear, outside. Seven frames form the brood-chamber. About 3 inches below the top bar, several passage holes are made about one half inch in diameter, for the bees to pass back and forth, and to equalize the warmth of the colony. Across the top-bars of the frames, several strips of wood, one half inch square, are laid, and over the whole—as a cover of hive or brood-nest—a woolen quilt is spread, being 6 to 8 inches larger each way than the top of brood-chamber.

The space of 4 inches between the sides of brood-chamber and house is well packed with wheat chaff, or cut straw, if chaff cannot be had, and on top of quilt the space of 7 inches is also filled with same material, when the roof is put on, which has a ventilator at each end to give free circulation of air. This keeps the bees perfectly warm and dry.

The brood-chamber entrance is so adjusted as to come near the right hand corner, while the portico entrance is moved to the left hand, thus no direct blast of air can strike the hive entrance, neither is there any danger of the entrance closing with ice as it is always protected, and comparatively dark.

For in-doors, I simply place the brood-chamber several feet above the floor of the cellar, covering the frames with a warm woolen quilt, and contract the entrance to one-half inch in width. This keeps the bees dry and warm, the moisture passing off through the quilt, whilst the warmth is retained. Several times during winter, on warm days, they are set out for a fly.

With this system I have now wintered my bees for 5 seasons and not lost a single colony, which fact assures me that my system is correct.

Hoping that my fellow bee-keepers may be benefited by my experience and observations, is the desire of your obedient servant. H. H. FLICK.

Mayfield Apiary, Lavansville, Pa.

Mr. Oatman had known bees put into winter quarters, with a honey board fastened down with propolis, come out equally as well as others covered with quilts.

Mr. Betsinger was glad that others were accepting his theory, that bees would winter well on combs of solid honey.

Mr. Porter had good success with bees packed on summer stands, but when left packed in summer they did not do well.

Mr. Wenzel intended to put a movable jacket about his hives and pack them full of buchwheat chaff.

Mr. Nellis thought that not enough attention was paid to protecting bees early.

Mr. Watson suggested rice hulls as a good materiel for packing.

Mr. King said if chaff is used for packing, it ought to be confined in some way so that it cannot be littered around.

Prof. Hasbrouck recommended contracting the brood-nest and covering with woolen blankets as the simplest and best method of wintering.

Mr. Porter preferred chaff on account of cheapness.

Mr. Oatman had experience with wrapping with woolen and different materials, and found old carpets the poorest thing used.

Mr. Everett described a method of wintering by constructing a frame around several hives together and filling it with straw.

L. C. Root gave his ideas about wintering. He was opposed to much packing, and preferred buckwheat chaff when it was done. Warmth was desirable, because it produces a dry atmosphere inside the hive and this was necessary for the health of bees. He advocated unpainted hives, as they allow moisture to escape. He had noticed when bees were dry they deposited dry fæces on the bottom board. In-door wintering under imperfect conditions was not so good as out-door with proper conditions. He said that Capt. Hetherington spends much money in wintering, and not always with best results, while a clodhopper near him would winter without ever losing a colony in old gums with cracks in sides and top, on summer stands and without care.

Our Honey Markets.

By the inventions of the movable-comb bee-hive, the honey extractor, comb foundation, and the consequent better knowledge of the nature of bees, the annual productions of honey have increased to almost incredulous proportions. Ten or twelve years back, an average crop of 15 lbs. of honey per hive would be considered a good yield per season, while to-day an average crop of 150 lbs. per hive is thought nothing extraordinary in a well-regulated apiary. Besides this great difference in quantity, those 15 lbs. of old would be marketed in promiscuous shapes. Boxes of any kind would answer for honey—neither producer nor consumer was particular.

Of late, however, matters have changed. Not only is the best and neatest style required for marketing honey, but it is also essential that each kind of honey be kept separate, otherwise the lowest rates will have to be accepted for all.

Taste is cultivated for different kinds of honey throughout the country. While some will pay the highest price for clover, others will prefer the linn or basswood, poplar, buckwheat, sage, sourwood, or any other kind of honey. For manufacturing purposes, also, different kinds are preferred; bakers preferring buckwheat and poplar honey. Compounders of liquors and manufacturers of wine, linn or basswood; tobacconists, clover honey, etc. Every sensible bee-keeper, therefore, will find it to his advantage to comply with the requirements of the market.

Producer and dealer should unite in offering honey to the consumer in the most attractive style.

Extracted honey is, perhaps, most acceptable to the retail trade in neat glass jars, neatly labeled, holding ½ lb., 1 lb., 2 lbs. and 3 lbs. of honey. A dozen or two of these jars, put up in a neat case, facilitates the jobbing trade. For druggists, confectioners, etc., desiring larger lots, tin buckets holding 5 lbs., 10 lbs. and 25 lbs., are more suitable.

One requisite to a healthy honey business is the neat outside appearance of packages, and the other, and perhaps the most important, is that our customers are convinced of the purity of our honey.

There is hardly a business in which adulteration is not practiced. We cannot, therefore, well expect that the honey business alone should make an exception. And we find, indeed, an abundance of adulterated honey in the market. It is the stumbling-block to a rapid growth of honey consumption.

In former years, when honey was higher priced, sugar syrup furnished the principal means of adulteration. At present, however, glucose, or so-called grape sugar, has been substituted. Glucose, the sugar of starch, is manufactured in our country of corn, in Germany and France of potatoes principally. This liquid is a dull sweet, of the same thickness and color as honey; unwholesome, but cheap, and not, by far, as sweet as cane sugar. Being without a flavor, it partakes very readily of any flavor brought in contact with it. For instance, five or six parts of glucose and one part of clover honey, mixed up, gives the whole the flavor of clover honey, or of linn honey, if linn be mixed with the glucose. The worst of the matter is, that it takes an expert to detect the fraud. This mixture appears to be complete in regard to flavor, but is minus the acid imparted to all sweets passing through the honey-sack of the bee, and which gives that tickling sensation to our throat. A number of stores in our city are provided with that spurious article. I have seen glass jars containing a piece of comb-honey each, and glucose only filling the remainder of the jars. The glucose had taken the flavor of the comb-honey, and the jars sold largely as "Choice Clover Honey," which their neat labels indicated. The only discovery made by consumers generally was, that they could not tell why they did not like honey any more, when they remembered well they had been fond of it in former years.

The price of glucose is 3½ to 5½c. per lb., and affords quite a temptation to the unscrupulous. Dealers, principally, were guilty of adulteration, but of late, producers also have tried their hand at it, perhaps stimulated to cheat although indirectly, by some of our bee publications recommending the use of glucose for feeding purposes. I was offered two barrels of honey, within the last month, by one of our bee-keepers, which I am certain was glucose,

the larger part of it. This sweet is found in our market under different shapes and names. Corn syrup, for instance, is one of them. Being very susceptible of flavor, the most pleasant flavor is given it. It sells well, but not often to one party, as one soon gets tired of it. Other parties, however, take his place. So much for living in a large country. Another kind of glucose is maple syrup; seven-eighths or more of all sold is glucose.

As bee-keepers, we don't care how much honey-syrup is sold, but glucose honey is very detrimental to our welfare, especially so if the glucose part of the name is left off, and the article forced on the market under the name of "Pure Honey."

I have been thus particular in describing adulteration, because I wish to put on their guard honest producers and fair dealers. That the public be assured of the purity of our produce is of vital interest to the bee-keeper and honey dealer.

In regard to comb-honey, it is of importance to the bee-keeper, first and above all, to produce a choice article in good shape. Choice comb-honey is white and well capped. Small frames of light, clear lumber, 5 to 6 inches square, and 1½ to 2 inches wide, filled with nice, white comb-honey, well finished, and weighing 1½ to 2½ lbs. each, is perhaps the most suitable shape with which to meet the retail demand. Neat shipping cases, holding 50 or 60 lbs. of the above frames of honey, will accommodate the jobbing business. Shipping-cases should be cheap, neat, but strong enough to stand transportation, and the contents should be shown through glass on two sides to as much advantage as possible. When placing them in our stores, the honey should be shown without exposing it to the dust, dirt and flies.

Neat glass-boxes, filled with nice, white comb-honey, looks well; but the most popular shape is, undoubtetly, a frame, as described above, without any glass. Purchases of honey look so much at their own interest in close times like the present, that they are loth to pay for any more tare than necessary. The price of honey, like that of other produce, will be regulated by the laws of supply and demand, just as soon as consumers commence to be better judges of the quality; when honey will also, cease to be merely an article of luxury.

Granulated honey, which is apparently so much objected to by the uninitiated, and is a source of trouble to dealers, will then be the preferred article, which it has been for years in the Old World. Perhaps nothing is a better proof of the purity of honey than a solid granulation. CHAS. F. MUTH.

Cincinnati, O., August 10, 1878.

L. C. Root. I think this one of the most important subjects before the meeting. We must not only watch the dealers, but see that the producer is free from any practice that might injure the business. On this score I object to the use of foundation in the boxes. The adulteration of honey by the use of glucose is a very serious one to the honest prodncer and the prosperity of the business. Some think that honey in the comb, as well as the extracted, is tampered with, and sales are very much affected. This should be corrected, as a large and growing interest ought not to be allowed to suffer from the dishonesty of a few unprincipled men. Sixty pound crates I consider too large; twenty pounds makes the best package for handling. Frames without glass I think lessen the sale. Grocers who have dealt in them are opposed to them as being troublesome to handle and not a practical form for the general puclic.

AFTERNOON SESSION.

Mr. Shearer. Two years ago I killed nearly all my bees by experimenting with feeding glucose. I fed them as much as they wanted to eat about the middle of April, and I continued to feed them, but they did not develop satisfactorily; they continued to dwindle until I had but eight colonies by doubling. I determined to follow up this, and later put the eight into two, and lost them. This had a bitter taste and may not have been as good as some made now. Certain poisons in small doses have a stimulating effect, and in large quantities are poisonous. I have never experimented since, but I am satisfied that all who have tested can detect these poisons. The question is, are we not ruining our trade if we admit any use at all of glucose. We may not be able to stop its use, but we can make it a penal offense to sell it for honey. Let each article be sold under its own name.

Mr. Porter. There is a difference in the quality of grape sugar. If we can have a wholesome food for wintering bees it will be used. An article free from sulphuric acid, which seems to be the chief objection, I would so experiment with that it will not be stored, and mark the result.

Mr. Bacon has lately examined specimens of grape sugar and glucose. Grape sugar is hard; glucose soft, peculiar in taste, and has not the same body as honey, and by adding it to honey it may deceive. It varies in price, according to quality, from five to two and one-half cents. This material will throw us out of the market. It is an inferior material, not honey, and should not be so called. Druggists need the purest honey for their prescriptions, and the use of another substance vitiates the prescription and it is a gross imposition upon the public.

Mr. A. E. Manum, of Vermont, sold his extracted honey to a druggist in Troy, who used it in the manufacture of a patent medicine, paying him much higher than the market price because he knew of the adulteration after leaving the producer, and feared its use in his goods.

Other members gave similar testimony.

Dr. Trimble said we must be careful of reputation, otherwise sales could not be kept up, and gave a statement of adulterations in butter and how shamelessly some rich men had lent themselves to frauds in articles of food.

Mr. Newman. It is essential to know what we are eating, whether honey, butter or anything else, and the AMERICAN BEE JOURNAL, as well as the *Bee Keepers' Magazine*, will uphold honest dealing and denounce adulteration.

Mr. Shearer stated that in this country 97,000,000 bushels of grain are used yearly to make spirits. By the use of strychnine,

stramonium, poppy-juice and belladonna, the gain in quantity produced was very great, viz.: from 3 to 16 gallons. This is done for profit; men know it, yet they will drink it. We cannot PREVENT the sale of glucose, but we must protect the people from the adulteration of honey. There is sufficient acid in the best glucose to kill bees. The adulteration of syrups is very extensive.

Mr. Porter. Our laws against adulteration should be as strict, and as strictly enforced, as those of England.

Mr. King. I have bought both the imported and the home-made grape sugar, and could never eat a piece the size of my thumb-nail without vomiting. Mr. Bergh's law is broad enough to prevent the needless taking of life, and I intend to make this a test case, and see if our pets cannot be protected. In Kentucky there is a law to prevent adulterations. On this question we all stand on the same ground.

Mr. Bacon had killed bees in days of ignorance, but will do so no longer. He produced specimens of glucose and grape sugar, which were passed around and tasted. If what is fed in the fall is not wholly consumed in the winter, it will become mixed with the honey the following year. One factory in Buffalo converts 5,000 bushels of corn a day into glucose. Its manufacture was described. The adulteration of honey is very small as compared with the amount of the crop, and need not excite any fear whatever on the part of the consumer, but we desire earnestly to nip this in its infancy, before it reaches the alarming extent of the various syrups.

Mr. Hasbrouck. If pure glucose is not deleterious, some of the chemicals may sometimes remain. The trouble does not come from sulphuric acid, but from sulphate of iron, which is not fully removed, and Mr. Shearer's bees probably got some of this. Glucose, fine and better than what has been passed around, is a great temptation. Honey will not act as glucose does when treated with proof alcohol. With glucose a precipitate is thrown down; none with honey, which simply appears of less consistency.

Comb Foundation.

N. N. Betsinger. Many, no doubt, think enough has been said upon this subject to prove that comb foundation has become a success. But I say unto you of a truth, like the Queen of Sheba, "the half has not been told." Without any selfish motive or prejudice upon this subject, I give you my experience for the past two years with comb foundation. The first was purchased from a party whom I have every reason to believe made it from pure wax. It was placed in different forms in several hives, all of which was accepted and worked out into perfect combs, except where used in the brood-chamber, and there it stretched half an inch in 9 inches. The sagging was nearly all in the upper half of the comb, and where more than this is noticed, you may put it down a fact, that it is an adulterated article. A few days later in the season, I learned that our worthy friend, Capt. J. E. Hetherington, was using wire in foundation in the brood combs, to prevent it from sagging. The idea struck me favorably, and I cried, "Victory at last!" Still, an important point was to be solved, viz.: How can the wire be run in the foundation without injuring the soft metal rollers? After a few weeks' deliberation, I concluded to let the matter rest until the meeting of the North American Bee-Keepers' Association, that I might there avail myself of the knowledge sought for; but as you all know who were here a little less than one year ago, notwithstanding my persevering efforts, I was obliged to submit to defeat. Being determined not to be outdone, I prayed to God that the secret might be revealed unto me, and in a few moments, like a flash of lightning, the whole was pictured out before me. The first point was the necessity of ordering a pair of copper rollers, which were in a few weeks completed by Mr. Washburn, of Medina, Ohio; the most perfect mill now on the face of the earth, and it is the only machine that has been able to make 900 square feet of foundation out of 100 lbs. of wax. The septum of such foundation will be 7-100 of an inch thinner than that of natural comb. Moreover, where wire is desired in foundation, this machine completely fills the bill, for just as many feet can be made with wire in as that without. The wire was found to be no hindrance to the bees, and 48 hours seemed sufficient time to perfect the foundation into natural comb. The queen also made no choice in depositing her eggs; even the cells occupied with wire at the base seemed to be unobjectionable to her. I put on the boxes two-thirds filled with foundation, the next day after the swarms were made, expecting the bees to occupy them immediately. The prospect now was very flattering for foundation becoming a perfect success; but seeing the bees did not take to the boxes, I concluded to examine the brood-nest, when alas! to my disappointment, the bees refused to nurse more than one-half of the brood where it was placed upon the wires. The corroding of the wires seemed to so impair the health of the larvæ that the bees were obliged to remove it. The season now being half advanced, with the brood-chamber three-quarters filled with solid stores of white honey, and not a drop of honey in the boxes, in nearly all of the hives. I therefore perceived at once that the bees were not to be humbugged in the boxes, if they were in the brood-chamber, and concluded to withdraw a portion of the boxes occupied with foundation, and gave them boxes partly filled with natural comb. They immediately entered them, and in a few days all were filled, while those with foundation remained unaccepted. I have now on hand over 3,000 boxes, nearly full of foundation, which have been on the hives a large portion of the summer. I now leave the subject for your decision. The experiments of the past season with foundation comb, have cost me over $1,000. Does it still remain a success with you?

A. J. King replied to Mr. Betsinger, controverting his views, and stating that to him foundation was a great blessing.

Mr. Porter gave his experience, to the effect that while white foundation was a failure with him, the yellow was a great success, He observes little sagging in cool weather.

Rev. J. W. Shearer recommended to have foundation drawn out in the spring, and put aside for use in the swarming season.

Mr. Manum believed that foundation correctly made, and rightly put into the hive, would not sag.

Mr. Oatman. There is no trouble with sagging in Illinois. If any comb sags it is improperly fastened.

Mr. Wright found that foundation from 5 to 7 square feet answered best.

Mr. Oatman thinks that made from 5½ to 6½ feet to be preferable.

L. C. Root is *very much* in favor of foundation in the brood-nest, but is greatly opposed to its use in surplus boxes. Had put foundation in sections, and in the same clamp other sections with comb-guides simply, and the bees filled those without the foundation first. I think foundation without wire not practical, as a swarm cannot be hived upon it. I do not want combs built out in the fall for spring. The plan is not practical. Capt. Hetherington has used 2,000 or 3,000 lbs. with wire, and thinks it a grand success.

Mr. Betsinger offered to give any one $50 who would present him, within a year, a piece of comb of 144 square inches, with perfectly developed brood over all the wires.

Mr. Nellis accepted the offer.

Mr. Porter thought that Mr. Betsinger must have used defective foundation.

Mr. Nellis considered the flat-bottomed cells the best. He has used it in his apiary, and it is not possible to distinguish honey stored on this from the natural comb.

Mr. King asked if by using foundation in boxes he could not do away with separators?

Mr. Nellis answered that he could not.

Mr. Batty said his experience was favorable to its use in the brood-chamber, but not in the supers.

Mr. Bacon used boxes in one hive without separators, and his sections could not be crated.

Mr. Everett considered foundation a success in the brood-chamber, but deleterious in boxes.

Mr. King offered the following resolution: *Resolved*, That foundation, where used in the brood-chamber, has in the past proved a success, and is worthy of adoption. This, after discussion, was carried.

L. C. Root offered the following resolution: *Resolved*, That the use of foundation in surplus boxes is not approved by this Convention.

Mr. King thought such a resolution would stop all investigation.

Mr. Nellis thought, after going home from the Syracuse Convention, where his views of using foundation in boxes met with great opposition, that he was getting to be a humbug, but after the very parties who condemned the foundation there, ordered 300 or 400 lbs., he thought he would go ahead.

Mr. Oatman had visited bee-keepers who had used foundation in boxes very extensively, and they could not be induced to abandon it.

After further discussion, the question was put and lost by a vote of 13 to 20.

A letter from the Rev. M. Mahin was read, as well as an essay by Mr. H. A. Burch.

To Honey Producers and Consumers.

The Bee-Keepers' Association of North America, in session in New York city, October 8 to 11, 1878, realizing the increasing importance of honey production and consumption, respectfully submit the following *facts*, which are no less important to the consumer than to the producer of honey:

It is now only a few years since the invention of *movable-comb hives* opened up a new era in bee-keeping, making it a successful pursuit. Such hives, adapted to climate, furnish every facility for intelligent management and manipulation of both bees and comb.

The invention of the *honey extractor* (a machine which empties the honey from the combs by centrifugal force, without injury to the bees), marks another advance step in apiculture. Thus virgin honey, free from foreign admixture, is obtained, having the flavor of the flower from which it is drawn.

The further invention of comb foundation, made of pure wax, completes the requisites for successful bee-keeping.

The introduction of Italian bees and improved methods of rearing queens and introducing them to colonies, has greatly improved the value of the honey gatherers, both because of their superiority and the introduction of new blood, preventing danger from "in-and-in breeding."

The great drawback is the *sting* of the bee. Danger from this source is now largely overcome by the simple appliances used for the protection of the person and for subduing the bees. The most vicious colony may be subdued in a few minutes.

TO CONSUMERS OF HONEY.

A few facts are necessary to preserve them from imposition. Nice white comb speaks for itself and is generally admired, but the price many lovers of honey will not afford. It makes a beautiful dish for the table, but is no better than *extracted* honey. All comb is wax, and in the stomach it is perfectly indigestible. Extracted honey is the pure liquid honey, taken from the combs by the honey extractor. It is entirely different from what is known in the market as *strained* honey. Consumers help to impose upon themselves by the false idea that pure honey will not granulate. They desire ungranulated honey, and dealers have attempted to supply the demand. Almost all pure honey will granulate when exposed for some time to light and cold. The granulated state is an evidence of purity. Much of the jar honey heretofore sold and recommended not to granulate, is a very inferior article, composed largely of glucose. Granulated honey can be reduced to its liquid state in a few moments by placing the jar in warm water. When thus liquified, it so remains for some time before again crystallizing. Consumers may be sure of a wholesome article by purchasing granulated honey and reducing it.

We would respectfully call upon producers and consumers to unite their efforts to procure, by petition or otherwise, such legislation in their respective States, as will prevent the placing of any adulterations on the market under the name of honey. This becomes the more important, since, during the past year, some American honey has been condemned in Great Britain, as adulterated. We certainly ought to prevent the sale at home of such adulterations as are forbidden in European countries. We suggest the following tests to prove the purity of honey:

1. Honey adulterated with a poor article of glucose will, when poured into a cup of strong Japan tea, turn black, by the action of the tannic acid upon the copperas left in the glucose.

2. A purer article of glucose is detected by pouring strong alcohol on it in a tumbler. The alcohol will dilute pure honey, but it will cause a deposit of glucose as a gummy substance at the bottom of the glass.

TO PRODUCERS.

By full use of improvements in bee-keeping, the honey crop of America may be almost indefinitely increased, and become a great source of national revenue. The home demand and consumption is largely increased whenever people learn to know the superiority of such honey. A large export trade is already commenced, and we are told that the only difficulty is in procuring honey in proper shape and quantity to supply the growing demand. This should be put up in attractive packages or small jars, so as to be readily handled by grocers and consumers.

Honey was for centuries the principal sweet known, and is still one of the most healthful. Improvements in refining sugars have within the last two or three centuries led to its general adoption. Why may not also new improvements in apiculture restore it to its true place as a general favorite, which was lost by bad management and the consequent corresponding limited supply?

Improvements in bee-keeping, as compared with old methods, are not less than those in railroads and steamboats as compared with former methods of travel.

For mutual information we would advise the organization of local societies and conventions to further this business among all interested in apiculture. THOMAS G. NEWMAN, *Pres.*
E. PARMLY, *Sec'y.*

Rev. J. W. Shearer moved that 1000 copies of the above address to the public, giving consumers methods of detecting adulteration, be printed and sent out to bee-keepers to be inserted in local papers. Carried.

Standard of Purity.

Mr. Oatman. Some have a standard of excellence based upon beauty, and they lose sight of honey-gathering qualities, docility, &c. One of the best tests is their action on the combs. If they run about wildly instead of keeping quiet, no matter how beautiful, they are not pure.

Mr. King says it is impossible to raise the best queens for $1.00.

Mr. Betsinger thinks that bee-keepers will never settle upon a standard of purity. Hybrids are frequently not distinguishable from the pure, and he considers the Italian a hybrid bee.

Mr. Oatman had kept both, and he found Italians gave a surplus in a poor season, while the blacks gave none. They are easier to handle and the queens easier to find.

Rev. J. W. Shearer. There are two so-called native bees in this country—the black and the brown.

Mr. Newman. The Italian bee bred in this country improves after several generations, if bred upon scientific principles for improving the race.

Mr. Rogers and others agree that sometimes a queen will duplicate herself early in the season, and latter her queen progeny will be darker.

Mr. Newman. We may excel in bees as well as in other stock, by the use of the choicest drones and queens.

Honey-producing Bloom.

Dr. Heath described the culture and merits of alsike clover, and asked for further information as to its merits as a honey plant.

Mr. King. It yields honey largely, and is better for stock feeding than the red clover. It dies out except on low rich soils, and requires replanting. The tulip tree blooms just after white clover.

Mr. Betsinger. It blooms in central New York the latter part of June, and yields more pollen than honey.

Mr. King. Sour-wood produces large quantities of honey in the South, equal in appearence to white clover, and I have made arrangements to furnish the trees to bee-keepers. I think they will grow North. It is said that in the Rocky Mountains one acre of Lucerne clover will give pasturage for 100 colonies.

J. E. Moore tried it thoroughly and reports adversely.

Mr. Newman. Sour-wood honey is fine in appearence, but not in flavor, we have a specimen of it in our office; many have tasted it, but none like it.

Mr. King finds its griping qualities undeniable.

The Rev. J. W. Shearer thinks it the finest in the world.

Mr. King had this season kept on the top of his office building 43 colonies, and had had better success with them than when he kept bees on Jersey Heights. The quality of the honey gathered was good, and he thinks them free from the aspersion of gathering from sugar refineries and groceries.

Mr. Newman had samples gathered in the heart of Chicago, Cincinnati, Toledo, &c., of good quality, clear and bright.

A. C. Watson, of Brooklyn, was frequently astonished to see bees working in great numbers on the clover on the battery. It is cut often, which makes it bloom more profusely and increases its duration.

Dr. Burgess, Mr. Newman, Prof. Hasbrouck and others, were confident that the amount of white clover bloom and its duration were increased by frequent cutting.

Mr. Hasbrouck stated that the American linden yielded far more honey than the European linden, on Long Island.

Mr. Van Winkle rose to corroborate what Mr. King said about the honey stored on his roof. He found it very superior.

Mr. King. Honey-dew honey is good and preferable to buckwheat. Alsike clover blooms at the same time as white, but lasts longer.

Mr. Root would, if he had a farm, plant alsike clover for bee pastuage every year.

Dr. Trimble asks if it is practical to put bees on boats to keep pace with the advancing flora?

Mr. King thinks there is no reason to doubt the feasibility of the plan, as it has been tried in other countries with success for many centuries. Any want of success in Mr. Perrine's effort on the Mississippi may be overcome by further experience.

Mr. Newman. Mr. Bingham has practiced migratory bee-keeping with success.

Mr. King. Mr. Hoagland's success in California, is due to migratory bee-keeping.

Mr. L. C. Root stated that during the past season he had found eight different parasites on bees, and he thinks bees are benefited, and their activity increased, by long transportation, as in the movement many of these pests are left behind. He then exposed a swindling advertisment cut from the *Country Gentleman*, stating that every hive of bees kept on that plan, &c., would produce a profit of $50.00 yearly. Such advertisements are a fraud and a swindle.

A paper by Mr. C. J. Fox, on bee-keeping in California, was then read.

Mr. King says the various orders of the eucalyptus or blue-gum tree are good yielders of honey.

Mr. Rogers does not believe California to be the paradise of bee-keepers. The climate some years is such that but for the intervention of man, bees would be exterminated there.

Mr. King. The 5 years I resided in California, my bees did well.

A paper describing Mr. Ira Parke's hive was read and commented upon. Each member seems to have a settled preference for the hive that use has made him familiar with.

Foreign Races of Bees.

A paper on Italian bees, by Mr. James Heddon, was then read. Mr. Root moved a vote of thanks for this valuable paper. Mr. Heddon was a practical apiarist and his change of views in favor of Italians was a powerful argument in their favor.

Dr. S. P. Parsons, of Flushing, L. I., by invitation of the President, addressed the Convention. He said he was surprised to hear men speaking of importing queens still from Italy. If he wanted a good queen, he would prefer a 40th or 50th cousin of some of those he had imported at first. He had two regrets about his connection with Italian bees—one was, that he lost about $1,000 by his enterprise, and the other was, that he did not have an opportunity once of letting his bees loose on a New York mob. During the draft riots in New York, one of the leaders of the mob sent him word, that, as he was one of the original abolitionists, they were going to pay him a visit. He gave his men orders to carry his bees and set them upon the edge of a verandah about 15 feet from the ground, and when the mob came near to kick them over, when he expected a rare enjoyment in seeing them scatter the crowd. But the ferry stopped running, and the fun was spoiled. He was requested by the Government, during a tour in Italy, to investigate the bees of that country. He did so, and purchased 24 colonies for himself, from which but one queen and a handful of bees in one hive survived the voyage. Just then he had a visit from Mr. Langstroth, who took the remnants in hand, and nursed them up into a prosperous colony. His last sales were of 800 queens.

It was moved and seconded, that a vote of thanks be tendered Dr. Parsons for his interesting address. Carried unanimously.

The President regretted that Mr. Langstroth was not present to meet his friends, and re-read the communication from him.

Dr. Parsons paid a very graceful tribute to the character of Mr. Langstroth, and his devotion to the science and culture of bees.

Mr. Betsinger moved that Mr. Langstroth be cordially invited to attend the next meeting of the Association, and that his expenses be borne by the Society. Carried.

Dr. Smith, who had traveled extensively in Asia and Africa, spoke about bees of those countries, and his interest in the subject from his youth. He many years ago wrote a little book on bees. He knew more about the bees, than of the different races of bees. He had kept them in the heart of Boston, where they made a great deal of honey, which he once exhibited at Horticultural Hall, but most persons were skeptical about it, and he lost reputation for veracity. Also kept them at the Quarantine grounds, and found them peaceable generally. They were sometimes made angry by the too near approach of uncleanly persons. The perspiration of some persons is offensive to them. There is a small, stingless bee in Brazil, that builds its cells in little cups like an egg cut transversely. When the ants are rearing brood, the ant bear leaves them and climbs the trees and feeds upon these stingless bees, which gives the ants a chance to increase in numbers. One of these colonies was once brought to Boston, but it was so preyed upon by various enemies that it dwindled away. In the Holy Land, about Bethlehem, there are many bees. They are kept in earthen pots made of clay unbaked, placed horizontally in rows, sometimes 200 in range. It is, in truth, a land of milk and honey. The honey is of great excellence. At every step you tread upon flowers. The honey is obtained by taking it out of the end of the cylinder. Bee-culture is very rude in Turkey. In Africa they are not cultivated, but are found in trees. In rocky portions of Greece the bees build in rocks, and the honey is often secured by raking it out of the crevices. The honey is sometimes poisonous, and the poisoning of Xenophon's soldiers has been handed down.

Mr. Shearer gave in full the origin of tanging bees, as connected with the birth of Jupiter.

Untested Queens.

Mr. Alley said that he sent out as good queens for $1.00 as he had done for $2.00 or $2.50.

Mr. King thought it was an injury to the business to send out untested queens.

Mr. Porter thought if Mr. Alley and others could furnish good queens for $1.00, the matter ought to be left to the laws of trade.

Rev. Shearer wished the terms "dollar queens" "warranted queens" and "tested queens" defined.

Mr. Alley replied that a "warranted queen" was one reared from a mother which produced three-banded workers and which he warranted to be good. A "tested queen" was one he knew to be good.

The President defined a dollar queen to be an untested queen, and he thought no Italian queens ought to be sold before being tested.

Mr. Oatman said he had bought many queens from whose colonies he had obtained no surplus, and that he did not secure any till he had bought queens that had been tested and known to be good.

L. C. Root offered the following: *Resolved* that we as an Association advise beginners to buy only tested queens of reliable breeders.

Mr. Nellis thought that the dollar queen business was so well established, that it would be hard to break it up. People wanted cheap queens under various circumstances, and as long as there was a demand for them it would be supplied. He had spoiled his stock by the introduction of imported queens. Many queens brought from Europe were unfit to be put into a hive. He will not import any longer, but will breed up a strain that suits him.

The Resolution was then put to a vote and carried unanimously.

Mr. L. C. Root then read a paper entitled "Hints to Beginners."

Dr. Trimble. Will any one take apprentices? It is stated that even one day spent with a practical man in the working season would advance one very much, and might be all he would need as a stepping-stone to success, while others might with advantage

spend a whole season with a good bee-keeper.

Dr. Burgess began by trying foundation and all other things, and had good success.

Petition to Congress on Adulteration.

Mr. King presented the following report from the committee on adulteration :

To the Honorable the Senate and House of Representatives of the United States, in Congress assembled :

Your petitioners, being delegates duly chosen by the different local organizations of bee-keepers of the United States, assembled in National Convention in the city of New York, this 8th day of October, 1878, respectfully represent to your Honorable Body, that

Whereas, The production of honey in our country now amounts in value to near about twenty-five million dollars, and the industry is fast assuming national importance ; and

Whereas, The honey is being adulterated by unprincipled dealers to an alarming extent, poisoning the health of our people, destroying the prospects of producers by bringing the article into disrepute at home and destroying our export trade, with other evils too numerous to mention ;

Therefore, your petitioners pray for a law against adulteration of honey, affixing such fines and penalties to its violation as shall prove an effectual protection alike to producers, honest dealers and consumers of honey, and your petitioners will ever pray.

On motion the report was received and the recommendations adopted.

Miscellaneous Business.

The prize of $25 offered for the best Essay on Fertilization in Confinement, was awarded to Mr. Hasbrouck, which he, in a graceful speech, handed to the President, stating he wished it held by the Association to be awarded at the next October meeting to the person who made the greatest improvement in the means to effect fertilization in confinement. The applause that greeted this action showed that it was fully appreciated.

Balloting for place of next meeting was next declared in order, which resulted—Chicago, 18 ; Cincinnati, 14.

The Executive Committee for next year were elected as follows : Thomas G. Newman, J. Hasbrouck, Ewrich Parmly, E. J. Oatman.

It was *Resolved*, That our next meeting be held in Chicago the 3d Tuesday in October, 1879.

The President called attention to the report of the Committee on granting medals, diplomas, prizes, which was passed, and asked the pleasure of the Convention.

Mr. Porter. As to details, this should be left with the Executive Committee, with power to act. The value of a medal should be in its source, and not its intrinsic value.

It was, on motion, *Resolved*, that the whole subject be referred to the Executive Committee, with power to act.

Mr. King suggests that instead of one person acting as judge, a local judge should act with him, and neither should know the producer.

An invitation of the European Congress of Bee-Keepers to send delegates to their next meeting at Prague, was referred to the Convention.

On motion of Mr. King it was *Resolved*, that if President Newman could attend that Congress and other European Associations of Bee-Keepers, that he represent this Association.

It was moved and seconded, that the bill for rent for the room for the present meeting be allowed and paid. Carried.

The Convention then adjourned to meet at Chicago, Oct. 21, 1879.

THOMAS G. NEWMAN, *Pres.*
E. PARMLY, *Sec.*

Stray Thoughts.

READ BEFORE THE KANSAS CONVENTION.

Your favor of Aug. 8th, asking me to attend your State Convention or send you a few penned thoughts, is received. Thanks for your kind invitation to attend, and while I assure you it would afford me much pleasure to meet with the bee-keepers of your Prairie State, many reasons make it impracticable. I will pen you a few, very few, stray thoughts upon some of the breakers in the way of the future welfare of the honey producer, that if I am correct and you conceive it so, you may be the better able to avoid them. I think you all will agree that if we can raise large crops of honey, and get good prices for it, our future is clear and bright. First, in regard to prices, I must confess that much has been done of late, to at least retard that rapid tendency downward, that our product has taken. I claim that *no* product should be so high that its lovers cannot enjoy it. Again, great care should be taken that an overstocked market does not put its price so low that the producer must suffer. I believe that most of you are aware that our late styles of packages, which are safely transportable, have attracted the attention of dealers and consumers in nearly every part of the old world. This avenue may, I think, be reasonably expected to act as a safety-valve to our honey markets. Those who store their honey in old-fashioned packages, must expect to suffer for their folly. A honey package, to bring a remunerative price, must be independent; by that I mean put up in such shape as to be open to the bids of the WORLD. To conclude this part of my subject, I will say that, positively, everything looks like we were going to protect ourselves in that important part of our present marketing and prices.

Now to the other part of our troubles: How to raise large crops of honey, of good quality. In regard to comb honey, which seems to be taking the particular attention of both producers and consumers of late, its quality is always as good as the flora will admit of. Of extracted honey, there is but one way yet known to keep up its reputation, and give your customers "value received," and that is not to extract it till all capped

over and "ripened" by the bees. This plan involves more labor, of both master and bees, and has consequently turned the attention of our most practical producers to the "royal seal of the bees," on raising of comb honey. To aid us in producing large yields we have learned how to prune our combs, or get them straight to start with, how to stimulate our colonies in needed seasons, how to properly construct our hives in size and shape, how to choose the best race of bees, how to supplant poor colonies with good ones, by controlling breeding, and many more ways too numerous to be mentioned here. But now I come to our worst enemy to the success of bee-keepers at large, and that is

OVER-STOCKING.

While it is true that thousands of pounds of honey yearly come and go, with no little gatherers near to gather it up for our hungry cousins across the waters, still there are very many localities greatly over-stocked. I can hardly conceive how one could be favored with a better opportunity to judge of over-stocking than I have been. I have had the entire field a part of the time for 10 years, with an apiary of from 300 to 375 colonies. Now, with 2 apiaries, 1 in an over-stocked locality, and 1 in a field nearly all to themselves, I have a fine chance to watch the results. I have made a careful estimate of the amount of honey probably consumed yearly outside of the surplus receptacles by bees, brood, brood-chambers and comb-building, within an area of 3 miles from my home apiary. In round numbers, it figures up to 125,000 lbs. With this number of bees kept, we shall never get any surplus except at two or three short periods in the best of seasons. I have watched this matter closely for the past 3 years, and now I say, all honor to our old friend Jasper Hazen, while he may have been somewhat at the other extreme, he is much nearer right than most writers upon this part of apiculture. There are too many accommodation theories written under the golden guise of scientific facts. It may be pleasant to see things in a shining way, but to succeed we must see them as they "am", as Billings says. We learn faster by experience, and only of late have had so good a chance to experience over-stocking. It seems as though bee-keeping ought not to be overdone in any locality, while so many rich fields lay totally unused. I have no doubt that honey-producing is destined to become a specialty. The more so, because it is different from any other business. It requires different study, different tools, different tact, and many appliances to make it a success, too costly to be afforded by the owner of a few colonies, particularly when he lives in a well-stocked field. When any field becomes so over-stocked that the business pays no one, the small bee owner will drop out, because he can. The specialist will not, because he cannot. When bee-keeping is run by specialists alone, there will be but little trouble from infringing interests, as no one will care to prosecute the business in a divided field, while whole ones lay open to the sun, and extend a standing invitation to the capital of the honey producers. To beginners who have been deceived by those fellows who scout about the out-skirts of bee literature, writing agricultural papers for personal advertising, I wish to say, that I beg of you not to believe for one moment that our pursuit requires little labor, little capital, little sense, as a return for great incomes. There is no sure royal road to wealth, without industry, thought, and self-denial. Our business is too old to contain a bonanza. It is one of great chance and fluctuation, particularly to the one who makes it a side-issue. For a year or two it will run along quite smoothly, seeming to be almost automatic; but to put and keep it upon a solid basis, and make a permanent success of it, requires thought, labor and capital. It is from bee-keepers of this stamp, that the honey-loving public may expect to be regularly supplied.

JAMES HEDDON.

Dowagiac, Mich., Aug. 27, 1878.

Prevention of Swarms and Increase of Colonies.

Read before the North Missouri Bee-Keepers' Association, held at Auxvasse, Calloway Co. Mo., Aug. 7-8, 1878.

LADIES AND GENTLEMEN:—It has been the custom of nearly all writers on apiculture, to describe the process of swarming and increase of colonies; but the time has come when it is more important to many of us to learn to prevent increase, and to work the whole force for honey. Now, I do not claim that anyone can be entirely successful in preventing swarms or increase; but by strict attention to their bees they may prevent increase, if they work for extracted honey, and have but slight increase if working for box honey. It is best to begin the season with strong colonies, so that the increase of young bees will be gradual. Should you force them to breed faster than natural by giving them empty combs inserted into the brood-nest the result will be an undue proportion of young bees hatching nearly at the same time, and crowding the hive too much. Now, as these young bees remain in the hive about 17 days before they go forth in quest of pollen and honey, we must relieve the overcrowded condition of the hive, and give these young bees something to do or they will become demoralized. Like children they will get into mischief, unless they have something to do. The first thing these idle bees undertake, unless employment be given, provided forage is abundant, will be the building of queen cells. Since we find that swarming is the natural way of multiplying and increasing the species, the honey-bee being governed by the same instinct of all other animated beings, to perpetuate its race, it becomes necessary to see what the usual conditions are necessary to excite swarming. Go to a hive that is preparing to swarm, and you will find that the hive is crowded with honey or bees—usually both—and perhaps not sufficiently ventilated. Now, if you desire to prevent swarming, you must use a hive large enough to accommodate all the bees that one queen can ever produce. You must keep your bees employed, either by

taking their honey, or giving them room to build comb. The young bees having their work allotted to them in the hive, as nurses and comb-builders; those young bees not needed as nurses ought to have room to cluster and build comb until they are old enough to go forth in quest of honey. If you are working for extracted honey, you will as soon as your hive becomes well filled with bees, but not too much crowded, place an upper story on your hive the same size as the lower, take one or two of the outside combs, without brood if possible, and put them in the upper story with division boards, then place empty frames between the brood and continue the process as often as the frames are filled until they get strong enough to build combs above, after which give an empty frame as often as needed. Should you use combs instead of empty frames, and get your hive filled with honey before it is thick enough to extract, remove one of the combs and give an empty frame instead, and put a third story on some of your hives to ripen the honey in your surplus combs.

If you wish box honey, place your boxes on as soon as your hives are well filled with bees and they are storing honey. Have one or two boxes filled with comb, if it contains honey so much the better, place starters of comb or foundation in the other boxes—the more comb the better. The boxes should be placed as near the brood as possible, and directly over it. See that your bees have free access to all the boxes, and when you tier up with empty boxes under your full ones, see that your bees have access to the upper as well as the lower boxes. Should you desire to have combs started in boxes at the side of the hive, place your boxes between the brood and entrance, never behind or to one side. Always give your bees upward ventilation in hot weather, and if you have no shade use a loose cover for your hives, raised at one end or side to allow the air to circulate freely below.

The next thing is to tell you how to manage the few swarms which will unavoidably issue. In the first place see that all your queens have their wings clipped. The best time is while the fruit trees are in bloom. Your hives should all be placed on the ground so that your queens can get back, should you be absent at the time of swarming. To prevent further trouble and subdue the swarming fever, extract all their honey and remove all the queen cells, and they will usually give no further trouble the remainder of the season, provided you keep the honey out of their way, and keep them with one frame not quite filled with comb. If you want box honey, the treatment is not so simple. The best plan is, as soon as the swarm is out, move the old hive a few feet from the old stand an place an empty hive on the old stand to receive the swarm; then take and remove your combs, boxes and all, brush the bees off and remove queen cells and give the combs to your swarm, place your boxes on and set the swarm where you want it to remain. Then give your bees some brood and a queen cell in the old hive, place it on its stand, and your work is done.

In conclusion I will give you a report of my success in preventing swarming:

In 1875 I commenced with	77	colonies,	had	3	swarms
" 1876	"	"	118	"	"	11	"
" 1877	"	"	130	"	"	12	"
" 1878	"	"	130	"	"	6	"

Report of honey during the same time:

1875	extracted	6,500	lbs
1876	"	13,000	"
1877	"	14,000	"
1878	"	11,000	"
Total for 4 years ending Aug. 7		44,500	"

E. C. L. LARCH.

Ashland, Boone Co., Mo.

North-western Ohio Convention.

This Association met at Toledo, Oct. 3, Capt. W. F. Williams in the chair; A. Fahnestock, Sec'y. *pro tem.*

After the reading of the minutes of the last meeting, and their approval, Mr. Newman, Editor of the AMERICAN BEE JOURNAL, Chicago, addressed the meeting in a very intelligent manner, and advanced the solid truth, that every bee-keeper should use but one kind or description of hive, on account of the facility of manipulating; the prize box (size 5¼x6¼ inches wide) has become the standard section box and should be put up in neat shipping crates; extracted honey must be put up in neat jars so as to be attractive. He also spoke of the use of honey in doing up fruit, and for sweetening cakes, pies, etc. Honey is no longer a luxury; thousands of pounds are now used where but a few pounds were heretofore used. It has now found its way into manufactories, and is largely used for making candy, ales, flavoring tobacco, &c., as well as in every place where sugar or syrups were formerly used.

On the subject of queens he said that we did not want queens merely for their light color or beauty, but for usefulness, industry, etc., and that instead of our importing queens from Italy, we should produce such an improved race that Italy and other nations should, and would, import from us. He has no doubt, that we can raise better queens in every respect than any now imported into this country.

Mr. Newman alluded to each convention having a show of honey, bees, etc., once a year, as it tended to create more enquiry, and bring the matter of honey producers more directly before the public.

Mr. Fahnestock offered the following resolution: *Resolved*, That the National Convention at New York should establish a standard of purity for Italian queens, and that no queens should be sent out by any queen breeder, unless previously tested, and up to the standard.

The following resolutions were passed: *Resolved*, That Messrs. Everett and Newman represent us at National Convention.

Resolved, That the members of this Convention report to the Secretary by letter, the increase, amount of honey, &c., and any other matter of interest.

Resolved, That the next Convention of this Society be held at Wauseon, on the first Thursday in January, 1879.

The committee appointed at a previous meeting on the purity of queens, reported as follows:

An Italian queen to be pure should be of a golden or leather color, medium size, large but fine wings, and active; should be noted for her gentility, industry and prolificness. Her working progeny should be distinctly marked by three yellow bands across the body; they should be mild in temper, but quick on defence, when suddenly alarmed, and gentle in manipulations of the hive, adhering closely to the comb. The purity of the queen can only be tested by her progeny.

THE EXHIBITS.

There were over 40 exhibits comprising all the various kinds of this delicious food.

Among the most prominent of the bee-furniture were a standard Langstroth hive, several sections, and a machine for inserting foundation in sections, by W. D. Parker, Defiance, Ohio.

Geo. Wilson & Son of Toledo, had several styles of Langstroth hives, together with frame sections, bees, &c.

Capt. W. F. Williams, of Liberty Center, exhibited a single frame neuclus colony, with pure Italian queen; also a caged queen with bees.

T. G. Newman, Editor of the AMERICAN BEE JOURNAL, on his way to the National Convention to be held at Cooper Institute in New York, had on exhibition some Italian bees, and drones in alcohol, beautifully marked, from his apiary in Chicago. Mr. Newman also showed several fine samples of honey in chrystal phials from three city apiaries: From the JOURNAL apiary, Chicago; C. F. Muth, Cincinnati; J. Y. Detwiler, Toledo, and B. O. Everett, who is, located a few miles from Toledo.

B. O. Everett, exhiblted some fine samples of honey, a Bingham & Hetherington honey knife and various other apiarian supplies. J. Y. Detwiler, exhibited a home-made comb foundation machine, made by electrotyping a sheet of foundation and fastening the copper deposit to a pair of steel rollers. Also, a pair of plates made by the same process. A microscope with several mounted objects, relating to the anatomy of bees. The six jars of honey which were exhibited by J. Y. Detwiler, of this city, was donated to the yellow fever fund by that gentleman.

A. FAHNESTOCK, *Sec'y. pro tem.*

Albany Co., N. Y., Association.

The bee-keepers of Albany county met at Chesterville, Albany county, and held the second semi-annual meeting of the above named Association. After the calling of the roll, and the reports of the Treasurer and Secretary, the President read the following address:

Ladies and Gentlemen:

It affords me great pleasure to greet so many of the bee-keepers of Albany county, after the anxieties, cares, toils and stings of the honey harvest, to discuss the best methods in the management of bees, and I trust that the interchange of sentiments and experiences on different topics may not only be pleasant but profitable. The first meeting of the bee-keepers of Albany county was called at Clarksville, the 11th of May last, when we organized "The Albany County Bee-Keepers' Association," and adopted a constitution and by-laws, and at this time we hope to increase our members, as all bee-keepers are, or should be, interested in an organization of this kind. Every occupation, profession or trade has its association, whose purpose is to better the class they represent.

I venture to say, that according to the number of colonies of bees, that there is not another county in the State that produces less surplus honey, and in as poor-shaped packages for market, as Albany county.

Now, shall we adopt the improvements of leading apiarists of the United States, or still continue to use the old box hive, and have our surplus honey stored in 8 and 12 lb. boxes, that we are obliged to sell at a low price, and to the detriment of those who have theirs stored in single-comb boxes of 1 and 2 lbs. each?

Honey put up attractively commands ready sale and at good prices. The grocer has no call for the 8 and 12 lb. package, hence it is a drug in the market. The old box hive has the capacity but for 4 boxes at a time, so the yield must be small per hive.

This question was settled by the Western bee-keepers long ago. All practical apiarists use some kind of a movable-frame hive, the advantages of which are that with a Bingham smoker, you have full control of your bees; to make a swarm or to prevent it; to keep all strong by interchanging frames or uniting colonies; and to introduce new blood, to prevent "in-and-in breeding."

Stock-growers and farmers understand that if they breed from the same stock, without change, the young progeny will be dwarfed or crippled, and without increase; just so with our bees! Who has not noticed in May and June the large number of young bees thrust out wingless, and with other deformities from this cause?

To have our bees prolific and industrious, we must introduce new blood; give them a good movable-frame hive, with ample room for surplus boxes, and the result will be astonishing!

Some say, "I have no time to look after my bees." Now, as all avocations are followed for the profits, why not make our bees pay? With proper care and attention they will pay, and we shall find a large increase in our receipts, for all labor and expense bestowed on them.

The President then called upon Mr. Newman, editor of the AMERICAN BEE JOURNAL, Chicago, (who was present by invitation), for a speech. He spoke at some length upon the improved methods of procuring honey and marketing it, &c.

Reports of members, for the statistical table, were then called for and received. New members were also reccorded.

Mr. Newman then delivered a very interesting address touching various points, among which were standard honey package; extracted honey and its uses for food and medicine; in-and-in breeding, and the improvement of our race of bees. He exhibited phials of honey, gathered in the heart of the cities of Chicago, Cincinnati and To-

ledo; also Italian drones and workers preserved in alcohol, which were far more handsomely marked than any of our bees in Albany county.

Mr. Newman received a vote of thanks for his instructive address.

Upon motion, it was resolved that the old constitution be dropped, and a new one, better adapted to the wants of the Association, be drawn up by a committee appointed by the President, to be presented for approval at the next Convention.

The Convention then adjourned to meet at Clarksville, on the first Tuesday of May, 1879, at 10 a. m. H. W. GARRETT, *Pres.*

T. H. VAN ALLEN, *Sec'y.*

[The Secretary requested us to write out our speeches and publish with this report; but our readers know our views so well on the subjects on which we addressed the Convention, that we prefer to give newer thoughts in the JOURNAL.—ED.]

Central Kentucky Association.

The annual convention of the Blue-grass Bee-keepers' Association took place in Lexington, Tuesday, October 1, 1878.

The meeting was called to order by Vice-president H. C. Hersperger, after which several signed the Constitution and became members.

The Constitution was amended as follows: In Art. X. "counties" changed to "States"; in Art. 1. the name is changed to "Central Ky. Bee-Keepers' Association."

The following were elected officers for the ensuing year:

H. C. Hersperger, president; W. Williamson, secretary; J. M. Holman, treasurer; Vice-presidents—J. W. Rose, John W. Bean, W. B. Herring, J. W. Egbert, Thos. A. Hutchcraft, Thos. S Williams, Dr. Jasper.

The secretary offered the following resolutions, which were adopted:

Resolved, That a committee of three be appointed to confer with the president and directors of the Agricultural and Mechanical Association of Fayette county, as to their willingness to encourage apiarists, and the advancement of bee-culture, by offering such premiums at their annual fairs as they may think proper; be it further

Resolved, That each vice-president of this association act as special committee to confer with the president and directors of the agricultural or fair associations in the counties they represent, with the same object in view as the general committee of Fayette county, and each and all report to this association on the first Tuesday in May next.

The president appointed the following committee for Fayette county: W. Williamson, Thos. T. H. Hayes, J. M. Holman.

Moved and carried that this association offer as a special premium to apiculturists a silver medal, the article or object to be decided upon by the committee and president and directors of the Agricultural and Mechanical Association; providing, however, that the report of the committee is satisfactory and endorsed by a majority present at the next meeting of this association on the first Tuesday in May, 1879.

The president then read the following questions for general discussion:

Question.—Will it pay to raise pasture for bees alone?

J. F. Bean said it certainly would if it would pay to raise crops at all; he recommended buckwheat, which he had sown extensively, and although the crop has many times been a complete failure, he felt he had been amply repaid in the benefit it had been to his bees alone. The president and other gentlemen agreed with Mr. Bean.

General Gano said that all crops for bees would pay, as all that the bees gathered was clear profit, and he believes there is nothing more profitable than bees.

The president said he favored every plant that produced honey, and nearly every plant would; but white clover is the best from which honey can be produced. He commenced keeping bees five years ago, and he believed they had been the means of making him a better farmer every year he has kept them, and induced him to cultivate a taste for all that is beautiful in nature that he might never have acquired.

J. F. Bean said that willows was one of the best honey producers. It blooms in February, and the bees gather both honey and pollen from it, and every bee-keeper ought to plant them, not only for their honey producing qualities, but they are a beautiful shade and ornamental tree as well.

Question.—How to prevent bees from raising brood in the upper story?

J. F. Bean said that young colonies should be confined to the lower story, until firmly established.

The secretary said, in the case of old colonies, often the brood-chamber becomes so literally full of honey and brood that the queen has nowhere to lay her eggs, and would naturally go to the upper story, either in boxes or frames, to perform her maternal duty; when, if the frames were emptied of all the honey in them by the honey extractor, it would give ample room for the queen, and insure an active and industrious colony; when otherwise, the whole harmony of the colony is in danger. The free use of the extractor is the best preventative for bees raising brood in the top story.

J. W. Rose agreed with the secretary.

Question.—When to Italianize an apiary, and how to introduce queens?

John R. Williamson. In the working season; the most successful plan he has ever tried was to cage the young queen, put it in the hive, leave the old queen in the hive also, and, in three or four days, take the old queen out, smoke the colony well, and let the young queen loose. By this plan there is no time lost, as the young queen commences as the old one drops off.

Question.—Are there any moth-proof hives; if so, which is the best?

J. R. Williamson said the only moth-proof hives known are strong colonies, and no others are worth keeping. If you have weak colonies, put two weak ones together and make one strong one; otherwise, they are worthless.

J. W. Egbert said he thought a moth-proof

hive would be a bee-proof hive; as to keep moth out, you would also keep the bees out too, and the only sure remedy is strong colonies, and the bees will protect themselves. These statements were generally agreed to.

Elder Gano claimed that his Vanhorn hive was moth-proof.

Question.—What is the best remedy for beesstings?

The ecretary said a bruised fresh tomato leaf, quickly applied, was an infallible preventive from swelling and pain from bee stings. When that could not be readily obtained, squeeze out all the poison possible after removing the sting, and apply ammonia which is a sure remedy if promptly applied before the swelling has commenced.

Question.—What is required from a bee-keeper to make beekeeping successful and profitable?

The secretary said it could be answered in a few words. Like all well-known successful business principles, it requires study, application, perseverance, energy and labor; without this nothing can succeed.

Question.—What are the advantages of comb-foundation?

The secretary said straight combs were insured by its use; more than half the labor for the bees is saved, and all worker comb; there are other advantages, but any one of these would insure the endorsement of the most progressive bee-keepers in the country.

The president said to use it in small strips, as starters in boxes, it is invaluable; it was generally agreed that comb-foundation is a valuable and successful invention.

Lexington was selected as the next place of meeting. W. WILLIAMSON, *Sec.*

Our Letter Box.

Holmesburg, Pa., Oct. 10, 1878.

A few days ago the undersigned opened the stomach of a toad and found 16 Italian bees, 2 black bugs and a caterpillar.

D. C. MILLETT.

Wenham, Mass., Oct. 4, 1878.

As the November number of the JOURNAL is likely to have all the matter it can accommodate, I will not reply to Mr. Moon, and to the remarks of the editor, on page 329 of the October number. H. ALLEY.

Dubuque, Iowa, Oct. 4, 1878.

Will the writer on Honey Dew, page 320, please explain where his insects get their material or nourishment to eject so much sweets from. Cows west of the "father of waters" have to be fed to yield milk. To me it is like the production of milk from chalk. I am not yet convinced.

GEO. W. HORNER.

Bluffton, Iowa, Sept. 9, 1878.

"This has been a poor season. White clover was abundant, but yielded honey sparingly. It was so wet that in twenty days we had twelve inches of water-fall. Not a basswood tree blossomed this season. About the last of August storing commenced from fall flowers, yielding abundantly. Extracted from fifty to seventy-five lbs. each from several hives, and a few gave about sixty lbs. in sections. The hives are filled with brood in all stages. The honey is of rather poor quality, and the question now is whether the bees will winter well on it."

O. E. COOLEY.

Farragut, Iowa, Oct. 16, 1878.

For two years I tried black bees. I purchased two colonies in box hives; I transferred and worked with them two summers, and then had three. I Italianized and commenced this spring with them all weak. I built up 22, and with the exception of one, all in good shape. I extracted 300 lbs. of golden-rod honey, and took 200 lbs. of comb honey. I left about 35 to 40 lbs. in each hive for wintering. One-fourth of this not capped; will it do as well as capped, or will they cap it yet? I used comb foundation and the Kretchmer hive. I think them good, the best I have ever seen. I had a few combs melt down. Have sold 2 queens and bought an imported one, the yellowest I ever saw. I would not do without the JOURNAL. I wish it success and expect to get up a club for it. E. J. ROCKEFELLOW.

[If you have 35 to 40 lbs. in each hive and three-fourths of it was capped when you wrote, it will be well. It is likely that all of it is capped by this time.—ED.]

Cincinnati, O., Oct. 2, 1878.

In the last JOURNAL I see a table giving statistics of a number of bee-keepers as to their successes and failures, in which is recorded many losses of colonies in winter, by improper manner of wintering or *bad luck*. This morning I met a friend of mine who has kept bees for some seven years, and whom I knew to have been successful. He has now about 40 colonies. I asked him about his manner of wintering which he described to me. I then asked him if he lost any last winter. He said, no, *he had never lost one*, at any time. This I call SUCCESS. He is known here as keeping the purest Italian stock, and as, generally, a most successful bee-keeper in every way, although he does not extend much.

HENRY W. STEPHENSON.

Carlinville, Ill., Oct. 21, 1878.

FRIEND NEWMAN:—Mr. C. F. Muth informs me that he has obtained a patent on his extractor. Can he patent an article that has been in general use for years? I don't believe he is the inventor of the comb-basket as he uses it. I cannot find that he made an extractor with stationary can and revolving comb-basket, as far back as 1874. I find that in 1874, J. W. Winder & Co., advertised a stationary can with gearing on the underside. In 1873, Mr. J. B. Keeler, my neighbor, and myself made and used stationary can extractors. Mr. Keeler's geared the same as Muth's. In the spring of 1874, I made another with comb basket exactly like the one Muth claims to have invented, except the frame of mine was made of wood. Now, I would like you to tell me what you think about the validity of his claim. I

have had made, and sold several extractors; don't know that I will ever have another made, but I don't believe in any one patenting things that they have no right to.

J. M. VALENTINE.

[As we understand it, Mr. Muth's patent only covers the inclined sides of the comb basket, and its manner of fastening to the shaft. We are surprised that a patent should be issued on an extractor, after all the essential features have been so long in use.—ED.]

Dallas, Texas. Oct.7, 1878.

FRIEND NEWMAN:—I send you by this mail the Catalogue of our Fair, and also, the awards of the premiums. Judge W. H. Andrews, of McKinney, contested for best queen, and took 1st premium; he also contested for premium for handling and subjugating. I got 1st premium over him. G. A. Linn, of Corsicana, contested for best queen and lost. Mr. Kuper and myself contested for 1st, best display of honey, extracted, in comb and wax; 2d. best package of comb honey, 1 lb. or more; 3rd, bee hive for all purposes, Mr. Kuper had some very fine 1 lb. sections, also a Simplicity hive. I got 1st premium with the regular Langstroth hive and the 2 lb. prize box.

F. F. COLLINS.

Johnson Grove, Tenn., Sept. 21, 1878.

I have 20 colonies in Langstroth hives in good condition. We can winter on summer stands here without trouble. Our honey is mostly gathered from poplar in May, as we have no white clover; bees gather honey here from the pea and cotton bloom, honey from the latter is sour and unpalatable.

JOHN H. SMITH.

Camargo, Ill., Oct. 18, 1878.

I have received one of Shuck's Boss Bee Feeders, and find it a very convenient and easy feeder for bees at the entrance of the hive, with little or no danger of robbers.

A. SALISBURY.

Sumner. Ill., Oct. 5, 1878.

FRIEND NEWMAN: I had a queenless colony, and gave it two capped cells from another hive. In three days I found a young queen in the hive, but she had no wings. She looked all right otherwise. I caught a lot of drones from the hive I took the cell from, as I had no other that had drones in, and gave them to the colony that had the wingless queen; the bees received them; the queen is now laying all right; has no wings, and never had any; I have watched her closely. Our honey crop is very light in this region, owing to such dry weather

W. EMERICK

[This looks like fertilization in confinement, and will no doubt aid Prof. Hasbrouck in solving that problem.—ED.]

The Annual Convention of the Northwestern Illinois Bee-keepers' Association will be held at Shirland, Winnebago County, on Dec. 17, 1878. JAS. E. FEHR, *Sec.*

Business Matters.

TERMS OF SUBSCRIPTION.

Single subscription, one year	$2 00
Two subscriptions, sent at the same time	3 50
Three " " " "	5 00
Four or more, " " "	each, 1 50

Advertisements will be inserted at the rate of **20 cents** per line of Agate space, for each insertion, cash in advance. One inch measures fourteen lines. Special Notices 50 cents per line.

☞A line will contain about eight words; fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

Notice to Advertisers.—We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed, and such advertisements discontinued. No advertisement received for less than $1.

Address all communications and remittances to

THOMAS G. NEWMAN & SON,

974 West Madison St. CHICAGO, ILL.

TO CORRESPONDENTS.

When changing a post-office address, mention the *old* address as well as the new one.

We send the JOURNAL until an order for discontinuance is received and all arrearages are paid.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways.

When ordering Extractors, give outside dimensions of frame or frames to be used, length of top-bar, width and depth of frame just under top-bar.

In consequence of the dearth of small currency in the country, we will receive either one, two or three cent stamps, for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us three subscribers to THE AMERICAN BEE JOURNAL with $6.00. Premium Queens will in every case be tested, but not sent till after July 1st.

Write name and post-office address plainly. If there is no express office at your post-office address, be sure to give your nearest express office when ordering anything by express. Give plain directions how goods are to be sent.

Seeds or samples of merchandise can be mailed for one cent per ounce, Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arragements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order,** for all Apiarian Supplies.

Honey Markets.

CHICAGO.

HONEY.—The demand for choice lots of comb honey, in single comb boxes is good, and bring from 11@13c readily; honey in 2 and 3 comb boxes being a drug at 10@11c. Choice extracted honey is quoted at 7@8c: but there is not much demand for it.

BEESWAX.—Prime choice yellow, 23@25c; darker grades, 18@20c,

CINCINNATI.

COMB HONEY—In small boxes, 12@15c. Extracted, 1 lb. jars, in shipping order, per doz., $2.50; per gross, $28.00. 2 lb. jars, per doz,, $4.50; per gross, $50.00.

C. F. MUTH.

CALIFORNIA.

HONEY.—Receipts not large. There is some anxiety to realize, in most cases, which makes an easy market with frequent concessions. Some fair comb will only bring 8c, and some good extracted is sold at 4¾c. Exports for the week were: Liverpool, 63,784 lbs.; China, 52 cases; Australia,445 cases. Quotations are as follows: Comb, white, 9@10c; comb, dark to medium, 7@8c; extracted, 4¼@6c.

BEESWAX.—25@27½c.

STEARNS & SMITH, 423 Front St., San Francisco, Cal.

NEW YORK.

QUOTATIONS.—Best fancy white comb honey, new, 17@20c; extracted, new, 8@10c; buckwheat comb honey, 13@15c; beeswax, prime, 27½c.

H. K. & F. B. THURBER & CO.

☞ We have gotten a nice Label for Crates, with blanks for addressing, as well as to write the name of the shipper. Price, 15 cents per dozen, postpaid; or 75 cents per 100.

☞ For *nice* Comb Honey, in Prize Boxes, we pay the highest market prices.

Bingham & Hetherington's Knife

AND SMOKER CORNER,

Will contain a short card from some one every month. See Bellows Smoker card on another page.

Oxford, O., Sept. 30, 1878.

Mr. T. F. Bingham—Dear Sir: Excuse the long delay in the acknowledgment of your courtesy in sending me one of your smokers. It is only within a very short time that I have been able, for nearly two years, to take any interest in bee matters. Your smoker has been in daily use for some months in a friend's apiary. He is enthusiastic in its praise, and after seeing how greatly it facilitates the handling of bees, I can most heartily endorse all that he says of it.

Yours, very truly, L. L. LANGSTROTH.

We have many reports from the new uncapping knives, all of which state that they are a great improvement, doing much more and better work than any other knife.

BINGHAM & HETHERINGTON.

Abronia, Mich., Sept. 23, 1878.

GET THE BEST
AMERICAN POULTRY JOURNAL.
A splendid 32 page Illustrated Monthly Magazine devoted to the Breeding and Management of
POULTRY, PIGEONS AND PET STOCK.
It has the largest corps of practical breeders as editors and correspondents of any journal of its class in America, and is
THE FINEST POULTRY JOURNAL IN THE WORLD.
SUBSCRIPTION, $1.25 per year, strictly in advance. Send 13cts for Specimen Copy. C. J. WARD, Editor and Proprietor,
182 CLARK ST., CHICAGO.

HEAD-QUARTERS!

We wish thus early, to inform our friends and patrons that we are in the field and

READY FOR BUSINESS!

For the Season of 1879 we shall be the HEADQUARTERS for Langstroth and Modest Hives, Prize Boxes, Separators, and all the necessaries in the bee-keeping line. As we are just a LITTLE AHEAD of ALL COMPETITORS in producing a fine article of COMB FOUNDATION, we shall lead the trade!

Make a note of these points, and write for our NEW PRICE LIST.

J. OATMAN & SONS,

Dundee, Kane Co., Ill.

WORRALL'S CENTENNIAL HIVE.

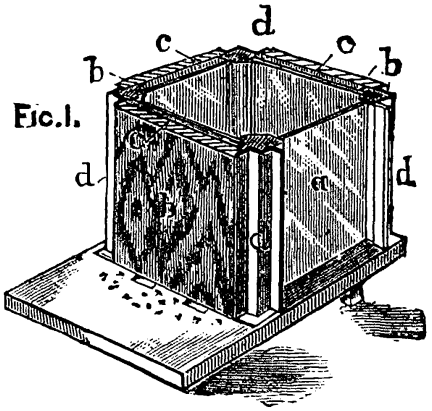


FIG. 1.

Always winters successfully in the coldest climes, when properly prepared. As important in summer as winter, the bees never cluster outside on account of heat, as the glass plates and dead-air space equalizes the temperature. You can ascertain their condition in a moment, and swarm them at your leisure, when it ought to be done. This hive has a cast-iron frame, with glass sides, making it an *Observatory Hive*. Doors fasten on over the glass.

Sample Hive complete with glass	$5.00
Hives, in lots of 5 ..... each,	4.75
do. " 10 ..... "	4.50
do. " 25 ..... "	4.00
Extra sets of Castings, with sample hive, "	1.50
Castings and material ready to nail, without glass, in lots of 5 or more, each.....	3.50
Lawn Observatory Hives made of black walnut, oiled, complete.....	6.00

THOMAS G. NEWMAN & SON,
974 West Madison St., CHICAGO.

Pure Italian Bees & Poultry

I will continue to rear PURE ITALIAN BEES and eight varieties of PURE BRED POULTRY, at prices to suit the times. Drop a postal for what you want.

R. M. ARGO,
Lowell, Garrard Co., Ky.
febtf

THE AMERICAN
BEE JOURNAL
Devoted Exclusively to Bee Culture.

VOL. XIV. CHICAGO, ILLINOIS, DECEMBER, 1878. NO. 12.

Editor's Table.

☞ For the contents of this number see the General Indexes.

☞ We find that the recent ruling of the Post Master General does not admit bees to the mails.

☞ We expect to attend the Conventions at Carson City, and Grand Rapids, Mich., on the 3d and 4th of December, and hope to see a large attendance at each one.

☞ Syrups are carried by railroads at fourth class rates, but extracted honey in barrels is charged first class rates—a manifest injustice to honey producers and consumers.

☞ A swarm of bees at Cold Spring, Conn., hived in a chimney flue, which they stopped up with comb five and half feet wide. Sixty-seven pounds of honey were there found stored away.

☞ To create a demand for your honey—scatter the small pamphlet on "Honey as Food and Medicine" among all the consumers in your vicinity. See new prices on the third page of the cover of this JOURNAL.

☞ The Hastings (Minn.) *Gazette*, has an excellent description of the apiary of Mr. Wm. Dyer, of that city. Mr. D. is a progressive and successful apirist, and fully entitled to the honorable mention of the *Gazette*.

☞ The wise weather prophets say that the coming winter will in all probability be one of the most severe we have experienced for some time. Let the bees be well prepared for such, so that they may not suffer, if it comes.

IN Whately, Mass., Asa J. Crafts has bees that have decended and been kept by his father, grandfather, great grandfather and great, great grandfather, John Crafts, who died in Hatfield, May 23, 1730. His son Benoni Crafts, one of the earliest settlers in Whately, brought them thither about 1758.

☞ The Rev. L. L. Langstroth has, during the past month, made a very pleasant visit to Prof. Cook, and the Michigan State Agricultural College. We are glad that his health is so far recovered as to allow of this visit. It will no doubt be as invigorating to his physical system, as it has been replete with intelligent associations.

☞ We can hardly consent to close the present Volume without entering our most earnest protest against the use of glucose for feeding bees. A report has just come in where an apiary of several hundred colonies has been entirely destroyed by feeding them glucose, or grape sugar as it is called. It was ⅓ honey and ⅔ glucose; but the bees are all dead and their foolish owner is a wiser but a poorer man! A clergyman had 8 colonies, and fed them glucose, but they *all* died, leaving him to mourn the loss. Let us say, *Beware!* It is poison, rank and deadly!

☞ On the night of November 5, our apiary was robbed by boys in search of sweets, and fond of adventure. The weather was cold and the bees not active, and hence they succeeded in the robbery. They took 8 frames (mostly honey) from one colony, leaving only 2. The bees they brushed off in a wooden building adjoining. They succeeded in carrying off quite a load of frames with honey and brood, and destroyed many bees.

In September we had 14 colonies of bees destroyed by the Railroad Company, in transit, by rough handling. Every comb was broken down, all the bees and queens were killed, and the honey had all leaked out in the car. The way that railroad employes handle goods, it is wonderful that anything goes safely.

☞ When binding the JOURNAL, cut the threads and remove the title and Index to Correspondents from the centre of this number, and place it in front of the January number. Leave the Indexes at the end where they are. These Indexes are full and complete, and will be found very convenient, enabling any one to find the article desired in a moment. These Indexes have cost us much time, patience and labor.

CLUBS.—Those who feel disposed to get up clubs for next year are requested to send to us for extra copies to use for that purpose. Quite a number of clubs have already been sent in, and many more have signified their intention to get up clubs. It is indisputable that the AMERICAN BEE JOURNAL stands at the head of all bee-papers, and with its enlarged size, and decreased price it is an easy matter to get up clubs in every County. It is not only the *best*, but the cheapest Bee Publication in the World, considering its size and matter,—$1.50 per annum, See our new clubbing rates on page 440 of this number.

☞ Samples of the NEW comb foundation, with and without wire, will be sent from this office for 10 cents.

☞ The Louisburg (Kansas) *Herald*, gives the "American Apiary" of Mr. Paul Dunken a two-and-a-half column illustrated notice. The *Herald* says that Mr. D. was offered $1,500 for his bees and a situation with a salary of $70.00 per month to take charge of an apiary near St. Louis. Mr. D. in his wisdom refused the offer.

☞ The *Courier* and *Reveille* of Seneca Falls, N. Y., the *Standard* of Cedar Rapids, Iowa, and the *Pilot* and *Register* of Marion, Iowa, have during the month contained unsolicated kind notices of the Editor of the BEE JOURNAL. Having spent nearly a quarter of a Century in the Newspaper business in these places, and having a host of friends in each, we appreciate the spontaneous action of these brethern of the Press. Thanks; gentlemen; Thanks.

☞ Mr. Jno. R. Clark, Roselle, N. Y. has sent us Mrs. Lizzie E. Cotton's latest circular, and wants to know if it is safe to send money to her for her hive, bees, &c. At the National Convention, Mr. L. C. Root, produced one of her advertisements, as published in the *Country Gentleman*, stating that every hive of bees kept on her plan would produce a profit of $50. yearly. It seems to us that such a claim should at once show that no credance should be given to any statements from one whose claims are so preposteous. Letters have been published within a year stating that the writers had sent money to her, but could get no returns. A little thought and the exercise of a small share of common-sense would prevent any one from sending money in answer to such extravagant advertisements. Such results cannot be obtained; and money sent to obtain instructions to do it, is only thrown away. We know nothing of Mrs. Cotton, personally, further than that she wrote us a year ago asking if we would publish an article from her, and we replied that if she sent it to us, it would receive the same attention as other correspondence, and be criticised if published, just as other articles are. But she never even dared to send it, on those terms! Our advice to all is, therefore, give no credance to any of her statements! She dares not come to the light of the BEE JOURNAL—even though she talks so boastingly in her circular.

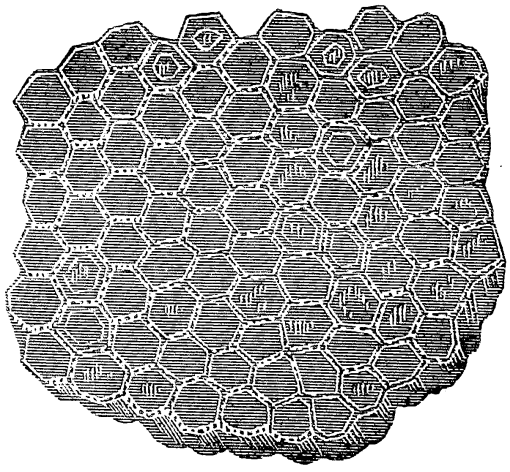
Petrified Honey Comb.

Mr. E. R. Douglass, of Martinsburg, Mo., has sent us another piece of this peculiar stone formation, which he says he picked up in a neighbor's yard, and asks "What is it?" Our friend Prof. Cook very kindly answers this question by the following interesting article:

MR. EDITOR: In your November number, p. 372, you speak of petrified honey comb, from Seneca Falls, N. Y. We have many such specimens in our museum. In some cases the cells are hardly larger than a pin-head, in others a quarter of an inch in diameter.

These are not fossil honey comb as you were led to believe, though the resemblance is so striking that no wonder you and the public generally are deceived. These specimens are fossil coral, which the paleontologist places in the genus Favosites; favosus being a common species in our State. They are very abundant in the lime rock in northern Michigan, and are very properly denominated honey-stone coral. The animals of which these were once the skeletons, so to speak, are not insects at all, though often called so by men of considerable information. It would be no greater blunder to call an oyster or a clam an insect.

The species of the genus Favosites first appeared in the Upper Silurian rocks, culminated in the Devonian, and disappeared

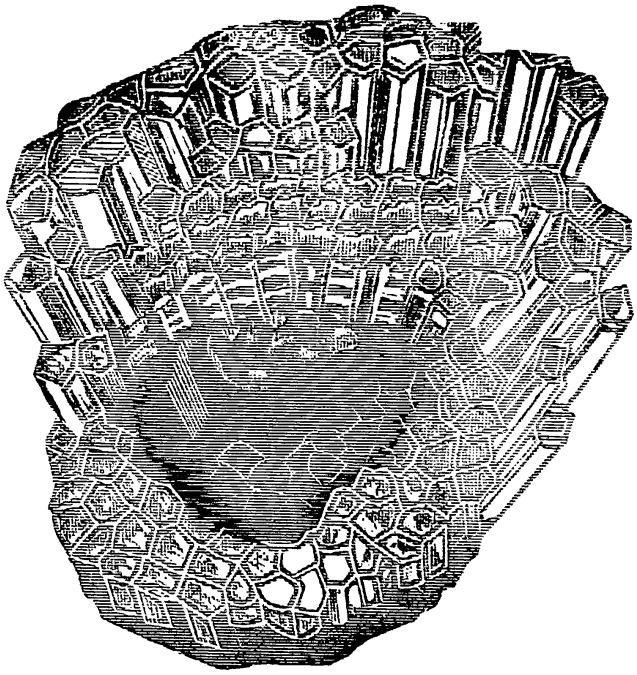


in the early Carboniferous. No insects appeared till the Devonian age, and no Hymenoptera—bees, wasps, etc.—till after the Carboniferous. So the old-time Favosites, reared its limestone columns and helped to build islands and continents untold ages—millions upon millions of years—before any flower bloomed, or any bee sipped the precious nectar. In some specimens of this honey-stone coral, there are to be seen banks of cells, much resembling the paper cells of some of our wasps. This might be called wasp-stone coral, except that both styles were wrought by the self-same animals.

I enclose drawings illustrating two specimens to be seen in our museum, one showing the banks or rows of cells.

A. J. COOK.

The engravings will give our readers



a very accurate idea of how these specimens appear.

☞ The Rev. L. L. Langstroth writes concerning the National Convention lately held in New York:

"That was a grand Convention. Those of the old style were of very little worth. Too much scheming for mere personal interests. Our National re-unions should be the grand arena for the best thoughts and words of our ablest men."

We hope the next National Convention, in this city, will be even more of a grand success than any that have preceded it. The West has long desired to have such a Convention, and now it has been located in Chicago, let the attendance be the largest, as well as the proceedings more interesting than ever. Our New York apiarists will be on hand in strong numbers, and those from the Middle and Western States will be fully represented. The Rev. L. L. Langstroth is expected, as well as the ablest living apiarists on the Continent.

☞ Mr. John M. Putnam, of New Orleans, La., has sent us a flower stem and leaves of the Japan Pear, which was in profuse bloom there all through October, furnishing excellent pasturage for bees.

☞One Dollar and fifty cents in advance will procure the BEE JOURNAL for 1879. Clubs of five for five dollars, cash with the order. Two dollars per year in all cases, as heretofore, when not paid for in advance.

☞D. D. Palmer passed through the city last week with a car-load of honey, going east.

☞Those wishing a Premium Queen for getting up Clubs will now please send *five* subscriptions and $7.50, and we will send them a choice queen in July.

☞Our new Illustrated Catalogue of "Implements for the apiary" will be ready in a few days and will be sent to any address on application.

☞A. Stiles, Genoa, Iowa, offers to sell 14 Vols. of AMERICAN BEE JOURNAL for $20.00. He says: "I owe my success to the A. B. J., but my infirmaties compelled me to sell my bees and give up the business."

☞Silver is now flooding the country and the old "postal currency" is getting scarce. Therefore for fractions of a dollar it is best to buy postage stamps, when sending to this office. One, two or three cent stamps are always useful to us.

☞The Michigan *Homestead* is the title of a new agricultural paper in Detroit, Mich., the first number of which is on our desk. It is a large and handsome sheet, and is well-filled with good matter. It is published at $1.50 per year.

PRINTED ENVELOPES.—We have gotten up some neatly printed envelopes containing the card of the AMERICAN BEE JOURNAL. On these we will print a card of honey producers, and furnish them by mail postpaid for 50 cents per 100; $1.00 for 250; $1.75 for 500; or $3.00 for 1,000. Samples furnished free upon application.

☞F. F. Collins, of Dallas, Texas, has been in Chicago and vicinity for a week past, and has chartered two cars for Texas, taking comb and extracted honey, and lumber for hives, crates, boxes, &c. He uses the Langstroth hive and prize boxes, and took all the premiums at the Texas State Fair last fall, on bees and honey.

☞The queen spoken of on page 368 of the BEE JOURNAL for November we learn was from an apiary in Crown Point, Ind. From the letter of Mr. Spaulding we inferred that it was the one we sold him, as he spoke of both in that connection.

☞We have been obliged to defer publishing the Proceedings of the North-East Wisconsin Association till our next No. The report is quite long, and we could not do justice to it in the space available in this number of the JOURNAL.

☞The Maryland *Farmer* is an old and reliable paper for the farm and fireside, and can be obtained clubbed with the BEE JOURNAL for $2.50 per year, for both. It is conducted with spirit and is reliable authority on all matters pertaining to the farm.

☞When packing comb honey in boxes, straw is a detriment to it, and of no advantage whatever. It so persistently becomes scattered over the honey, and packing down so easily, its presence is not only no protection, but objectionable.

PURE LINDEN HONEY.—For certain reasons I am particularly desirous of having an analysis of *unquestionably* pure linden or basswood honey, made by the able Prof. of Chemistry, Mr. R. C. Kedzie, of the State Agricultural College, Lansing, Michigan. Any bee-keeping friend advising Prof. Kedzie that he can send a quart of such honey, can learn how to send it, and will confer a personal boon upon.

L. L. LANGSTROTH.

CANADA.—All interested in calling a Convention, are requested to communicate with Mr. W. G. Walton, Hamilton, Ont., who will if desired make proper arrangements for holding such the coming winter.

☞The petition against adulteration will be presented to Congress in January. Let all who favor it, send for a copy at once, and get it signed and returned to Mr. Dadant, in time to go with others. Mr. Charles Oliver, of Spring, Pa., has just returned three petitions containing 360 names. There is no time to lose now.

"CARMEN."—By Prosper Merimee. The original work, from which the opera of "Carmen," now being presented by Miss Minnie Hauk and Miss Kellogg, was dramatized, has been translated into English from the French, and will be published in a few days by T. B. Peterson & Brothers, Philadelphia, in their popular square duodecimo form, price fifty cents, uniform with "Theo," "Kathleen," "Savell's Expiation," "Dosia," "Marrying off a Daugbter," and "Sonia," published by the same firm.

Welcome to an Old Friend.

The Rev. L. L. Langstroth has so far recovered from his prostration of several year's standing that he is able again to attend to his correspondence, and offered to furnish an interesting article for our last JOURNAL. Why it did not appear is explained by the following, which came to hand just as we were going to press :

Oxford, O., Oct. 25, 1878.

FRIEND NEWMAN:

After promising you an article for Nov. I found myself so overwhelmed with business after my long sickness, that I could not get it ready—will send it for Dec. No. I desire through the AMERICAN BEE JOURNAL to assure all your readers of my hearty sympathy and co-operation, to the extent of my ability, in all efforts, to advance the best interests of apiculture. Very truly your friend,

L. L. LANGSTROTH.

In a recent letter Mr. L. promises us some interesting articles on "The personal reminiscences of an old bee-keeper;" in which he will tell how he became interested in bees, and relate the steps by which he reached the invention of movable frames. He will also give the history of the importation of Italian bees, &c. These recollections will be exceedingly interesting to many of our readers, and we feel sure that they will be read with more than ordinary attention by all. We hereby renewedly tender to Mr. Langstroth, the veteran scientific bee-keeper of America, a hearty welcome to the BEE JOURNAL. We are glad to know that his interest is unabated in the subject of bee-culture.

☞ At the Michigan State Fair, we notice that Frank Benton carried off 9 prizes, being for box honey, hive, Italian bees, nucleus, extractor, smoker, veil, comb foundation, introducing cage, &c. H. D. Cutting, W. Spedding and Henry Bidwell took the other prizes in this department. The committee of award embodied the following in their report: "Your committee desire to make particular mention of exhibits by Frank Benton, of Detroit, all of which must be of great practical use to all engaged in the bee business. We have recommended a small discretionary premium, but suggest that instead of the premiums a diploma be given for each article. The honey is all good, and it has been a difficult matter for us to decide which is best."

ANOTHER SMOKER.—Mr. Scovell has sent to our museum a smoker which he has made, and asks our opinion of it. It is in all essential features a copy of the Bingham smoker; the few changes but weaken it, and makes it less desirable. It has the *essential* "cut off," but located differently, and a small wire hook to hang it up by. Should it be hung up while hot, close to any thing inflammable, a damaging fire may be the result.

Mr. A. J. King, in his address before the National Convention, on the "History of bee-keeping," remarked:

"Mr. Quinby, invented the best form of bellows smoker then in use, which has been further improved by the addition of the direct draft principle, invented by Mr. T. F. Bingham, which leaves nothing more to be desired in this line."

We fully agree with Mr. King. The smoker of Mr. Scovell and also the one made by Mr. King, are efforts to utilize the direct-draft principle, which has made the Bingham smoker so popular. In form both are like Bingham's, but more complicated, requiring machinery to do imperfectly what Bingham's accomplishes perfectly without.

Had Mr. Bingham made no effort to patent his smoker, it is quite probable that no practical effort would have been made to make any different!

Until they can get up something essentially different from the Bingham smoker that will accomplish the same result, we advise all to be satisfied therewith. Bingham's inventive genius is entitled to the full credit of his excellent invention of the direct-draft as applied to smokers.

☞ The papers almost without exception are now proclaiming the advent of better times—the "panic" and "hard times" seem to have spent there fury upon us, and the heavens look brighter. The general "thanksgivings" of the past week have therefore been hearty and appropiate.

Seasonable Hints for December.

The bees being now in winter quarters, every wide-awake bee-keeper will be looking around, and preparing for next seasons' wants. Making hives, honey boxes, &c., should be foremost in the catalogue of preparations; and for these, well-seasoned lumber should be selected. The hives must be substantially and accurately put together, and should be well painted. Hives thus made cost a little more than the "heap-by-cheap" ones, but are much the cheapest in the end.

Some will find it to their advantage to purchase hives cut, ready to nail together, and for boxes and sections, this plan will be economy for almost all. Care should be taken to have good materials—quality being of more importance than price. It will be well, of course to buy as cheaply as is consistent with obtaining first-class articles.

If you order hives, or material for them, boxes, crates, &c., do so early enough to avoid delays caused by the rush of those who neglect it till just as they need them.

The producer should bear in mind that uniformity of packages for comb honey is very important. To this end let all use the prize box. It can be used on any hive and may be glassed or not as may desired. Use tin separators between all combs of surplus, so that they will pack well together, whether glassed or not. Let the tin separators come to within one-half inch of the top and bottom of the boxes, thus leaving a passage way for the bees above and below, and preventing their building out wider, as they will be likely to do, if the separator leaves more space than one-half inch at either top or bottom.

Use the prize crate for shipping; it will contain one dozen prize boxes or sections and may be glassed, if the boxes are not. Ship all honey with the top bar downwards, as that often saves weak combs from being broken down, and all in the crate being "mussed up" by it. If comb honey be sent by freight, it is all important that it is properly labelled "this side up; handle with care;" and have crates all properly addressed. When possible, see to packing it into the car, and always have the combs ride lengthwise of the car, so that the "bumping" will not be likely to break them down. Labels are just as essential when sent by express.

Exporting Honey to Germany.

The San Diego (Cal.) *Union* remarks on this subject as follows:

"Mr. C. J. Fox expects to ship one hundred barrels more of our first-class San Diego honey to Germany by the next steamer. We have a notion that when the German palate gets a good taste of our honey there will be a steady demand for it over there. It is the cheapest sweet that the people can use, while the quality cannot be equaled."

The Los Angeles *Star* adds:

"Those desiring to ship to Europe through Mr. Fox, can consign their honey to his agent, Robert Difan, 204 Sansome street, San Francisco. The packages should be marked P. Liefmannsohne, Hamburg, Germany.

"The Los Angeles Bee-Keepers' Association has pledged the patronage of its members to the proposed new line of steamers to ply between Santa Monica and San Francisco. The proposition set forth by the proposed line is to the effect that they will carry freights to 'Frisco at $2 per ton and passengers at $8 for the term of ten years, provided the business men of Los Angeles will sign an agreement to patronize said line for the specified time. The annual shipment of honey from this county is no small item, and we are satisfied that the bee-keepers of Los Angeles will pledge themselves to a man to such a measure."

☞ In the notes concerning our visit to the East in the JOURNAL for last month, we inadvertantly omitted to mention a very pleasant visit with Mr. Theo. C. Van Allen, and his parents, as well as the Albany County Convention, presided over by Mr. H. W. Garrett, and held at Chesterville. In the hurry succeeeding our absence from home for over three weeks, it was omitted.

☞ In the winter we enjoy the fruits of the little honey bee's labor during the summer.

Review of a Year's Work.

Volume XIV of THE AMERICAN BEE JOURNAL is now complete! Our work for the year 1878 on the JOURNAL is done! How well it is done our readers must judge. It is a source of much pleasure to us to find such a unanimous approval. As samples of encomiums expressed in letters published during the year, we give the following: To these and the hundreds of others, whose "kind words" were not published, let us say, Thanks! Many thanks! We will add that it is our determination to make the JOURNAL for 1879 better than ever:

"God-speed the AMERICAN BEE JOURNAL."—Isaac F. Plummer, Augusta, Maine.

"I learn something from every copy of the BEE JOURNAL."—C. H. Dibbern, Milan, Ill.

"You have worked up the BEE JOURNAL almost to perfection."—Orion Siggins, West Hickory, Pa.

"I think the BEE JOURNAL the 'Boss'! It is the first paper I read."—J. H. Riley, Connersville, Ind.

"I would not do without the BEE JOURNAL for three times its price."—J. E. Kearns, Waterloo, Pa.

"I find the BEE JOURNAL an excellent companion and adviser."—L. M. Wainwright, Noblesville, Ind.

"I consider the BEE JOURNAL the *best* bee publication—having read them all."—J. E. Hunter, Jones Co., Iowa.

"I do not see how any one can be successful in bee-culture without the BEE JOURNAL."—D. K. Knoll, Boundary City, Ind.

"I prize it highly. Should it fail to come at the proper time, I feel as though a dear friend was absent."—G. W. Jenkins, Owen, Ky.

"I would not do without the BEE JOURNAL. I shall get up a club for it, and wish it success."—E. J. Rockefellow, Farragat, Iowa.

"The BEE JOURNAL grows better and better every month. No bee-man can afford to be without it."—John Barfoot, New Canton, Ill.

"I could not consent to do without the BEE JOURNAL. It is so valuable to me that I long for its arrival."—R. D. Utiger, Alhambra, Ill.

"I do not see how any one can do without the BEE JOURNAL. I have been handling bees for 40 years."—A. M. Barnett, Valley Mills, Texas.

"I like the BEE JOURNAL much, and the better I become acquainted with its management, the more I prize it."—O. Courtney, Marathon, N. Y.

"The JOURNAL surpasses itself; each issue is an improvement upon the last, in the bright, cheerful appearance and instructive influence of its whole composition."—W. Williamson, Lexington, Ky.

"I have learned more from the BEE JOURNAL, of how to handle bees, than from all other sources, and wish it every success."—R. Corbett, Malden, Ill.

"I have read many papers, but place the BEE JOURNAL ahead. I wish it could reach every energetic bee-keeper in the land."—W. L. Boyer, Ashmore, Ill.

"I am much pleased with the AMERICAN BEE JOURNAL. It is the largest and best bee paper published in the World."—D. L. Franklin, Boone, Co., N. Y.

"The July No. of the BEE JOURNAL is replete with instructive articles; of itself it is worth to a bee-man a year's subscription."—M. S. Baker, Santa Monica, Cal.

"All progressive bee-keepers should take the AMERICAN BEE JOURNAL; read it and grow wise; they will never regret it."—G. A. Walrath, West Bay City, Mich.

"I don't see how any one who handles bees can do without the BEE JOURNAL. It is the best paper I ever read, and I have read many."—S. M. Oldham, Reynoldsburg, O.

"My bees came through the winter in splendid order—no loss whatever—thanks to instructions in the "old reliable" BEE JOURNAL."—D. I. Beecher, White Co., Ark.

"If you keep on improving the BEE JOURNAL as you have within the past year, it must become the *ne plus ultra* of bee literature, the World over."—O. W. Spear, Easton, Pa.

"The BEE JOURNAL comes loaded with good things. I can't see how it is possible to make it so much better every month. It is always a welcome visitor."—Thomas J. Ward, St. Mary's, Ind.

"I hail the coming of the BEE JOURNAL with joy. It is the greatest light we have on bee culture, bringing ideas, not only from the editor but from all the other experienced bee men of the land."—L. A. Taber, Holyoke, Mass.

"The AMERICAN BEE JOURNAL has saved me in clean money $56.25 in the matter of hives alone in two years, to say nothing of the other information I have gained from it. Those who do not take it, stand in their own light."—R. Matthews, Pontiac, Ill.

"I am among the many who are glad that the AMERICAN BEE JOURNAL fell into the hands of those who have no hobbies to ride or axes to grind—to make money by—well, stealing others' inventions, without giving credit to whom it is due. I only express the views of its many readers."—F. A. Snell, Milledgeville, Ill.

"The BEE JOURNAL is pre-eminently above all its competitors. It is full of fire, enterprise and vim; it discusses the various questions pertaining to bee-culture with spirit and energetic thought; it is an honor to its Editor and to the interest which sustains it. It has no individual axe to grind, but it is the fearless champion of all that is useful and good; steadfast, unwavering, honest; never vacillating or swerving, but true as the needle to the pole to the interest of bee-keepers. It should be taken and supported by every one interested in bees or honey."—*American Grocer.*

Book Review.

BEE-CULTURE; OR SUCCESSFUL MANAGEMENT OF THE APIARY, by Thomas G. Newman, editor of the American Bee Journal.

In this little hand-book of 80 pages, Mr. Newman has given us a short, clear statement of the science of bee-keeping by modern methods. The first 24 pages are devoted to "The Natural History of the Honey Bee," and give, in language as free as possible from technical, scientific terms, a popular statement of what is known about the bee. As successful bee-keeping depends so largely upon a knowledge of the nature and habits of the bee, this chapter will be found one of the most valuable in the book. I have seen an objection urged against Prof. Cook's "Manual," because it devotes so large a space to a presentation of the natural history of the bee. Surely such objection was not well considered. A man who is ignorant of the natural history of the bee may, for a time, succeed in bee-keeping by slavishly following the directions of another, or by a run of what is called "good luck," but emergencies will arise to which his rules do not apply, and in which his boasted "luck" will fail. He loses his bees, and retires from bee-keeping in disgust. The man who has a fair knowledge of the nature of the bee can meet such emergencies by methods of work rationally based upon such knowledge, and he will in the long run succeed. All wise friends of bee-keeping will strive to diffuse correct knowledge of the bee.

Next, in a chapter of 10 pages, Mr. Newman considers the "Establishment of an Apiary," treating briefly all the topics from "Situation and Stocking" through to "Honey Bloom." His statements here are based upon the experience of our most successful bee-keepers. The beginner will find every paragraph full of sound advice.

A chapter on "Hives and Surplus Honey Receptacles" follows. Mr. Newman is an ardent disciple of the Langstroth hive, and of the "prize" honey section and the "prize" shipping crate. Certainly the prize section and prize crate are most excellent. As to comb honey they leave little to be desired, especially if Mr. Moore's paste-board caps shall prove practical and economical. There is no doubt, either, that the "Langstroth" frame is a good one, but some of us who acheive with the "Gallup" frame just as good results, to say the least, and who claim some strong points in its favor when it comes to practical work, are not able to see the probability that the Langstroth frame "will ere long supplant all others" quite so clearly as Mr. Newman sees it. Hence we make a gentle protest against the positiveness of his statement. Probably those who use the "Quinby" and "American" frames would have, also, a word to say. After all, it is true, however, that the larger number of beginners in bee-keeping need positive directions. They are bewildered and disheartened by distracting statements as to the merits and demerits of different frames. It is best, perhaps, to tell them to adopt a particular frame, for, as Mr. Newman says in this chapter, "proper management of the bees has much more to do with good results than any form of hive or size of frame." What is said in this chapter about the importance of securing surplus comb honey in attractive shape, assorting it, grading it, and putting it in market in beautiful condition, cannot be too strongly commended. A large part of the comb honey comes to market now, especially in the villages and smaller cities, in very slovenly condition. Such honey is a positive damage to every producer in the vicinity.

The next chapter is given to the "Honey Extractor and its Use." The author does not advocate the exclusive production either of comb or extracted honey. In this he is undoubtedly wise. Honey is good in both forms, and will be in demand in both forms. The beauty and excellence of comb honey make it so desirable that it can never be supplanted. On the other hand the cheapness and excellence of extracted honey will constantly increase the demand for it. Thoughtful producers will labor to increase the demand for both, and will produce whichever in their locations is most profitable.

In the chapter on "Comb Foundation and its Use," there is a good statement about this new help in bee-keeping which has so rapidly come into wide popularity. Then, there is a chapter on "Italianizing," "Dividing" and "Swarming," and finally one on "Managing and Quieting Bees," both of which are full of practical directions. The little book is amply illustrated. Its table of contents and index enables one to find readily any topic desired. The paper is good, and the print is clear.

Unfortunately, the proof-reader did not always have his eyes about him. That he should have allowed "ceiled" cell to stand

for "sealed" cell is unaccountable. Mr. Newman says in his preface, that his pamphlet is designed to "supply a *cheap* work for the beginner." As such, therefore, it should be judged; and as such, it seems to me to be very good indeed. O. CLUTE.

Iowa City, Iowa, Oct. 21, 1878.

[A few errors in the first edition, now nearly exhausted, will be corrected in the next edition of the work.—ED.]

Foreign Notes.

Translated from *L'Apiculteur Alsacien-Lorrain*, BY FRANK BENTON.

Comb Foundation—No. 2.

Not rejecting wholly the view taken by some, namely: "That colonies provided with combs exhibit less activity than those that have to build them, and that thus there is a compensation for the work of the latter," we would ask: Do we not with comb foundation leave something for the bees to build?

Suspend your sheet of wax in a vigorous colony between two finished combs, and, if the flowers are yielding, and the young queen is laying rapidly, four days will suffice to have the cells nearly completed and to enable you to see a little honey, and, even more, many eggs. I have often noticed that the queen will take possession of cells the walls of which are scarcely built out. But with comb foundation the work goes on over a large surface at once, hence the laying can be conducted with a degree of rapidity that is impossible under ordinary circumstances. From this comes, 1st, an increase in the population of the hive, and, 2d, as a result, an increase of the products, because the quantity produced depends more or less on the strength of the colony.

"This is all very well," you say to me, "I admit the acceleration of the growth of a colony with a young queen, by means of your foundation; but you have said considerable about the loss which you sustain when the bees are kept secreting wax. Now I do not see that comb foundation is such a great saving, for, in order to complete the work it is necessary to have material for the walls of the cells."

Do not be deceived, the material is in part before you. When the work of building out comb foundation commences, our intelligent insects hollow out the base of the cells, that is, they gnaw the wax from the bottoms of the impressions. Observe that they follow closely the angles marked out, and which are for them real guides. The gnawings of the wax are not thrown away; our insects are too economical to waste even the least particle. What they remove with their jaws is at once worked over and fastened upon the edges of the cellular base. As the cells lengthen out they preserve the yellow tint of the comb. It even happens often that the cells are built out half way before the white wax—the real work of the bees, becomes apparent. Thus, the less wax to secrete the less honey consumed. And how much time does this work of building out consume? You will agree with me that the brick maker who finds the clay at hand, will make, in less time, a given quantity of brick, than one who must first search for his material two or three kilomtres from his kiln. Thus with our bees. Either the same number of workers is engaged in the labor—then the work advances more rapidly; or there are fewer—which is always the case, and then the excess of workers fly to the fields and return laden with stores. The latter to the apiarist, since wax is not to be procured.

As to the finishing out of the cells—the latter half, (or sometimes a little more, according to the fineness of the sheet), the usual method is employed by the bees. But since half is gained, are we not better off than if all must be built? Our account is even better than this, for the full weight of our comb foundation is used in the construction of the comb. We only have to change one sum—the price of wax. A kilogram (about 2¼ lbs.) of foundation made by Schulz, comes to 8 francs 50 centimes ($1.53); the honey saved by the use of this kilogram being valued at 20 francs ($3.72), we still make a profit of 11 francs 50 centimes ($2.14). Let us, in order that we may not be accused of inaccuracy, make this 1 kilogram less, the quantity of honey which might be collected by the bees detained in the hive to pare down the foundation and build out the first half of the cells; there remains the sum of 9 francs 50 centimes ($1.77). You are not a millionaire, my friend, any more than I am; do not scorn this sum.

Still a stronger word in reference to this discussion of the subject of compensation. If those who invented comb foundation imagine themselves right in supplying it to colonies not having to produce more wax, you see that with it they are pursuing a faulty course, for these same persons claim that it is too thick and that it requires much labor on the part of the bees to get it pared down. Therefore be consistent, gentlemen, and admit, as every one else does, 1st, that comb foundation is not a complete comb, and, consequently, that, if it is necessary to have new wax to complete it, there is no resason for the bees becoming sluggish on account of the indulgence. 2d, that the completion of these foundations occupies fewer workers than would be required in the complete production of as many combs, since half of the material is given to the bees by the bee-keeper. I repeat that the use of comb foundation is the only way of succeeding rapidly in only having strong colonies, and what is certain should not be ignored.

In a future letter we will examine more thoroughly this important point—more important even than that which we have just discussed, for they have been trying to find how to substitute workers for drones, and finally have invented this comb foundation which I recommend to you. I have begun, my friend, with secondary considerations,

as you began, in your excellent cellars, by offering us wine of the second quality, so as to pass afterward to the better sorts,—a way permit me to say, which connoisseurs in wines have, but of which no one ever complains. From this, *fac ut bene valeas*,

Liepore, May, 1878. DR. REISSER.

Foreign Items,

GLEANED BY FRANK BENTON.

"Ein Vorspiel im November nur :
Das Volk bleibt meistens frei von Ruhr."

This proverb among German bee-keepers would read in English as follows: "A flight in November only, and the colony remains quite free from dysentery."

FROM Luneburg, Hanover, news comes that the fall weather has been very pleasant and favorable for the securing of the crops, which this year are excellent. The bee-keepers, especially, have been favored with a good harvest, the first "honey year," it is said, since 1859.

THE luxuriance and beauty of the vegetation on the Island of Java, particularly of the flower-producing plants, are said to be wonderful. The island is described as being "the most fruitful island in the world, an Eldorado, a paradise." To Herrn. Rudolf Mayerhoeffer, the active and worthy editor of "*Der Bienenvater*," Prague, belongs the whole credit of having suggested and even urged upon the Dutch government the importation of European bees. Several colonies were safely landed on the island last year, and a new source of wealth to the government has been opened. It seems that in the manufacture of their clothing the inhabitants use much wax, and, thus far, have been obliged to import all of it; now, however, Java has the prospect of being able to export wax ere long. Herr Mayerhoeffer's service in this matter certainly deserves a high reward.

THE Egyptians exhibit great skill in their manner of cultivating the bee. The flowers and the harvest are much earlier in Upper Egypt than in Lower, and the inhabitants profit by this circumstance in regard to their bees. They collect the hives of different villages on large barges, and every proprietor attaches a particular mark to his hives; when the boat is loaded, the conductors descend the river slowly, stopping at all places where they can find pasturage for the bees. After having thus spent three months on the Nile, the hives are returned to the proprietor, and after deducting a small sum due to the boatman for having conducted his hives from one end of Egypt to the other, he finds himself suddenly enriched with a quantity of honey and wax, which is immediately sent to the market. This species of industry procures for the Egyptians an abundance of wax and honey, and enables them to export a considerable quantity to foreign countries."

IN the *Bienen-Zuechter* for November, under the heading "Postscript," the following appears in large type :

"THE LATEST DISCOVERY.—Artificial capping of honey-combs. Hot, liquid wax is blown upon the open honey-combs by means of the *refraicheur*. The discoverer is Pastor Knoblauch, of Roloffshogen, Pomerania."

Perhaps hereafter one can seal up any honey left in open cells by the bees or fed late in the season !

Mating in Confinement.

By F. J. Grohman, Schoolmaster at Wolfsberg, near Rumburg, Bohemia; Translated by R. Mayerhoeffer :

When the bee-keeper has queens just hatched in a queen-nursery, (the latter is indispensable in securing the mating with selected drones, *i.e.*, in confinement), two things in reference to the rearing-hive must be arranged : First. The queen-nursery is to be fixed in the interior of the hive under the aperture. (The author means here a hole in the top covered with wire-cloth or perforated tin.) Second. We must prepare a roomy frame-work or case, the sides and top of which are glass, and the bottom wood. Through the latter a hole is made, to correspond with the aperture in the top of the hive, and the frame-work or case is then fitted on the hive. The passage connecting the two must be provided with a slide so it can be opened or closed from the exterior. When this case is closely fitted to the hive on all sides we can proceed with the operation.

One of the first hatched queens is removed from the queen-nursery and placed between the wire-cloth or perforated tin which closes the aperature in the top of the hive, and the slide of the glass case which has been placed above. The bees below will feed her through the wire-cloth or perforated tin, so she can remain there till time for her to mate. When the weather is favorable one or two active drones of the desired stock are placed in the glass case; the slide is opened, and the queen, never having known a larger space than her prison, is quickly attracted by the fluttering of the drones and the streaming in of the light, to fly up and mate, whereupon she is removed and her place supplied by another. No more certain method exist.

Notes and Queries.

Huntsville, Ala., Oct. 9, 1878.

Enclosed find a few blossoms and piece of the stem of a weed that grows in great abundance in the fields and waste places here. It grows from one to four feet high; commences to bloom Oct. 1st, and is giving our bees quite a lift; stands the drouth well; is called by some wire-weed, and for aught I know is a valuable honey plant. Please give proper name. JOHN R. LEE.

[These are asters. See description in Nov. No. of BEE JOURNAL, page 373.—A.J.C.]

Grantville, Ga., Oct. 31, 1878.

I send a specimen of a plant that bees work well on and gather considerable honey from. It grows from 6 to 12 feet high, branches from the ground up, and blooms on every branch. Bees are now at work on it. What is the name, and its value as a honey plant? L. B. WATKINS.

Prof. W. J. Beal, of the Michigan Agricultural College, answers as follows: *Leonotis nepetæfolia* (Lion's-ears). This is an annual which belongs to the mint family, and like most or all of the family, is good for bees. Famous bee-plants of this family are basil, lavender, germander, lycopus, horse-balm, hyssops, majoram, thyme, sage, catnip, dragon-head, blue-curls, scull-cap, &c. These are all general names and are most of them applied to numerous species, and often several genera of this large family.

Orange County, Fla., Oct. 22, 1878.

Can you tell me why bees will not build comb in this climate in summer? In May I was speaking of getting some bees, and some one present said if I wanted to transfer them I had no time to lose, as it was about time for them to stop making wax; that they could not make wax after the middle of June, until late in the fall. But as he could not give any reason, I thought he did not know anything about it, so went ahead and got my bees, put them in Langstroth hives on May 21st, and gave them foundation to work on. For about three weeks they went at it with a rush, and then they stopped. On some of the foundation they had just begun work. From that time until about the first of September, not one cell was built. Since then they have been doing a little, but not working as they did at first. The comb which they had built was all the time full of brood in all stages; and they carried in pollen freely, but very little honey. There are only two others near here who use the movable frames, and they tell me their bees have done the same way. I saw a large colony put into an empty box hive about the 10th of June. One day in September I was passing the place and was asked to stop and look at the bees. I turned the box down, and found they had not built a piece of comb as large as your hand, and the colony had dwindled to a mere handful. I fed one of my colonies for some time, thinking I could get them started building comb, when they found they were getting more than they needed for food, or could store in the comb already built. They would use all I gave them, but no new comb could I get. Where they put it I can't say. There are very few days here in winter, when the sun shines, that it is not warm enough for bees to fly. I have some cane to grind and syrup to make. How can I manage not to kill my bees? I have neither much cane nor many bees this winter, but by next winter I want a good lot of both.

A gentleman living some distance from here, who has no bees on his place, told me he did not think he would exaggerate in saying he killed a peck of bees each day last winter while he was making syrup. If that is so, I will soon grind up all of mine, and my neighbors', too. If you can suggest some plan whereby I can prevent such a catastrophe, I will be much obliged.

N. J. BAYARD, JR.

[I think the case of Mr. Bayard is only to be explained by some abnormal condition of the colony. To be sure, bees, if kept for a series of years in a country where there are no need of winter stores, might cease to make provision for an interval of idleness and rest; but change of habit like this would require long years. Again, in Florida, as elsewhere, there is not a continuous flow of nectar, and there, as elsewhere, bees must provide stores. In California and other of our Southern States, there is an equally high temperature, and yet, we have not heard of such a refusal to build comb. I can but think that some evil had befallen the bees in question. In one case mentioned it was very likely the loss of queen, and the bees were too discouraged to continue their activity.

We have taken all combs away from our bees, at various seasons, even when it was too cold for the bees to fly, and yet they would build comb in every instance, though shut up in their hives, and fed wholly on melted sugar.

In regard to the cane grinding, I see no way to remedy the evil, except to shut up the bees, or else to do the grinding in a building closed against the admission of bees. If the bees were shut up, they might be buried or put into a dark cellar, to keep them quiet. In well ventilated hives, I should suppose they would bear confinement on their stores for two or three weeks, without injury. Perhaps the ground cane and syrup could be covered with gauze, so as to exclude the bees.—A. J. C.]

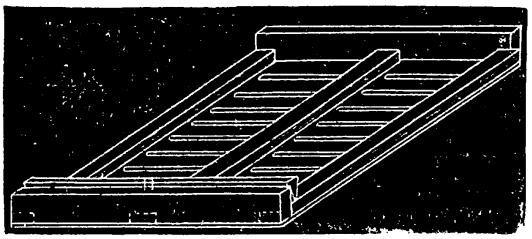
Carroll Co., Miss., Oct. 4, 1878.

"Can you tell me of a good plan to catch millers?" A. C. WILLERS.

[A strong colony of Italians is the best remedy against them. A good plan to catch the millers is to place a candle or lamp in a vessel of vinegar and water, after dark. Drawn by the light, they will perish by scores.—ED.]

LeClair, Iowa, Oct. 21, 1878.

Enclosed find drawing of comb honey rack to hold prize honey boxes, which I have been trying to improve. It is the same as that advertised, with this addition: Instead of metal rabbets, use thin wood-about ⅛ inch thick. Cut slots, as per drawing, to correspond with the sections used. Its only advantage is in keeping the boxes clean and prevent their sticking to the brood frames. The drawing is calculated for the



Gallup hive. It rests on the outer walls of the hive. In putting this light stuff on, I use tin strips, clout nails, which makes it substantial. Please give us your objection if any. T. J. DODDS.

[The idea of Mr. Dodds is well enough; but there was no wedge to keep the boxes together—this we have added to the cut, and with that addition and the use of boxes with tight top bars, to keep the bees in, the rack will work well. The only difference between it and the one used on the Langstroth hive, being the wood bottom to keep the bottoms of the boxes clean.—ED.]

Toledo, O., Oct. 30, 1878.

I wish to inquire if the flowers of the plants "pyrethrum roseum" and "pyrethrum carneum," secrete honey and pollen in sufficient quantity to attract the honey bee? If so, would it not be injurious to them, especially the pollen? as I understand the article on the market known as "Persian Insect Powder" is composed of the dried and pulverized flowers of the above plants. Also if the plant is indegenous to our section of the country. If you find the above suggestions worthy of investigation, should be pleased to hear the result through the BEE JOURNAL.

JOHN Y. DETWILER.

[Pyrethrum is another name for our chrysanthemum, which includes the noxious ox-eye daisy, the feverfews and the cultivated chrysanthemums. Our beautiful cultivated species have become so double, that I presume they yield but little, if any, honey or pollen. I have never noticed bees on either of these. The plants are near congeners of the asters, etc., which are among our best autumn honey plants. So we might well believe that the single flowers would yield nectar. I think I have seen bees on ox-eye daisy. Because the dried pulverized flower heads of the C. roseum form an insecticede, is no proof, that the honey or pollen from the plants would be unwholesome to the bees. I should have no fears that it would be. The C. roseum is introduced from Persia.—A. J. C.]

Laceyville, O., Sept. 21, 1878.

MR. EDITOR: I have been a little puzzled to know how bees marked their location so accurately. Will you please inform the readers of the BEE JOURNAL?

JOHN W. WATERHOUSE.

[This is done through the sense of *sight*. A large percentage of the bees that fly out in the early spring are those that have come into being during the winter and early spring; consequently they do not leave the hive in a straight line, but only go a few inches, then turn their heads towards the hive and oscillate back and forth in front of it; then moving further back, still hovering in front of the hive, with their heads towards the entrance, occasionally advancing towards it, as if to note more particularly the place of entrance and its immediate surroundings, they then increase the distance, taking a survey of buildings, trees, fences, or other noticeable objects near by, after which they return to the hive, and start in a direct line from it. On returning they come directly to the hive and enter; the surrounding objects and the color of the hive are all noted by the bees.—ED.]

Nelson, Ky., Oct. 10, 1878.

1. How can I manage to secure in my frames, straight combs?
2. What hive will give me the largest yield of honey? E. JONES.

[1. Straight combs may be secured by the use of comb foundation. That with wire incorporated into it, we think will be the most serviceable as it will not sag in warm weather.

2. Large yields of honey are obtained, not by the use of any particular form of hive, but by scientific management of the apiary.—ED.]

Correspondence.

For the American Bee Journal.

How to Establish a Honey Market.

Much has been written and said in regard to the marketing of honey; how it should be put up for market; how we were to create a demand at home for it, &c. But it looks to me that what those who produce honey by the ton most need, is an established market for their honey, at an established price. At present there is no particular price for honey. We pick up a New York paper and eagerly glance over the market reports for honey, but often lay it down in disgust as we find honey is not quoted at all. We try again, and this time we find honey quoted at from 15 to 17 cents, for best white. We take up another, the New York *Atlas* for instance, and find honey there quoted at 20 to 22 cents, showing to us conclusively that honey of the same grade is selling at random, so to speak. Nor need we go to the outside press to find that honey has no established price, for in our bee periodicals we find one quoting honey at from 17 to 20 cents; and another at 15 to 17 cents. This is not so with farm produce, and other articles of merchandise. If we have a load of wheat to sell, or a few tubs of butter, we can find just what it is worth in New York, and can take it to any place near home, where they deal in these commodities, and get what it is worth in New York, less the freight and a light commission for handling. If we go to these same places with our honey they say: "What do you expect to do with that stuff?" We say, sell it. We are asked what we want for it? Why the market price, of course. The answer is, "We know no established price for honey. We buy pork, eggs, butter, oats, corn, &c., that have a fixed value in them, but honey we don't want. You had better ship it to some house in New York, Boston, or Philadelphia, to be sold on commission, or sell it at home and take what you can get for it." And this is about what most of us do. A few, however, will say, "I have got but a few hundred pounds; I will go to our city (which has from 15,000 to 50,000 inhabitants, as the case may be), and see what I can get for it." They go, stop at a place where they deal in country produce, and ask the price of honey, with the answer, "We have plenty; we do not wish any." "But what is nice honey, in 2 lb. boxes, worth?" "Oh, from 11 to 14 cents; anywhere along there." A sample is shown, which perhaps is looked at, with the remark, "Yes; that is nice; but we do not wish any." Perhaps our friend has some butter to sell, so he asks, "What is butter worth?" The dealer says: "If you have butter to sell we want it; we are paying 18 cents for butter, and if it is the real gilt-edge, perhaps we could give you 18½."

He passes to the next place, shows his sample, and asks what they are paying for honey. "If it is all as nice as that, we will pay you 10½ cents for it." "What is butter worth?" "Eighteen cents, sharp." And so he goes all over the city to find a uniform price of butter, and possibly gets an offer of 13½ cents for his honey, or a part of it, comes home, and concludes to ship it on commission to some house in New York, and run the risk of getting honest returns, or having it smashed on the cars; for even Thurber & Co. will not buy honey this season.

Now, what we want is a fixed price for our honey, as there is for other produce. A correspondent writes thus: "I shipped my honey to ——, New York, but have no returns from it as yet. I think the honey *market* is the vital question for bee-keepers at present. We could get the honey if we were sure of a ready sale for *cash*. What we want is an established market like the butter market, so we can sell our honey any day for cash, at some price according to quality. Can this be accomplished in our day?"

I confess that I do not feel competent to point out a way whereby we can secure an established market for our honey, thereby making it a staple article, but bring the subject before the readers of the AMERICAN BEE JOURNAL, thinking that perhaps by united action it may be accomplished. Could it not be brought about through our National Convention, by appointing a member in or near each city to get all dealers in said city to keep honey at a uniform price, and have that price uniform throughout the United States? G. M. DOOLITTLE.

Borodino, N. Y., Nov. 13, 1878.

[This is a vital point. We started the season's prices—buying at 18 cents, selling to retailers at 20, and they retailing at 25 cents. Soon we found some producer had come to the city, and within a block of our office had left his honey for sale at retail for 15 cents. This was followed by others, and the result is that it has been a loss of thousands of dollars to honey producers. United effort only can grapple with this very disagreeable business.—ED.]

For the American Bee Journal.

Apis Dorsata.

For many years I have taken a deep interest in plans for the introduction of this variety of bees into America. The late Mr. Woodbury, of Exeter, England, and myself, were in correspondence upon this subject. Learning from me the steps I proposed to take for securing it, he requested as a favor that I should wait until the results of his efforts could be seen; offering in the most generous manner to give me the benefit of all his knowledge and facilities, if I thought best not to postpone my efforts. As he was the first to plan for its importation from its native habitation, and as my knowledge of it came mainly from his writings, I felt that it was due to him that I should comply with his request.

His death, so sudden and unexpected, was a great loss to the bee-keeping world; and I have never been able to carry out my

plans for introducing *Apis Dorsata* to this country. Just when apiarians were hoping to see the work accomplished by such men as Dr. E. Parmly and others, the whole thing seems to have been abandoned, and the stamp of worthlessness to have been put upon *Apis Dorsata* itself.

Writing this article away from my library, I am not as sure as I could wish to be of some of my statements; but am almost certain that Mr. Woodbury, either in a private letter to me, or in some communication, says that he has seen the comb of this bee, and that while the cells are *deeper* than those of the black or Italian varieties, they have *about the same diameter!* If this is so, it is evident that our bees could utilize their combs, by piecing out the cells, so that the possession of a single queen might give us the means of propagating the race.

That this bee does not confine itself to building upon trees, is certain from this fact given to me by Mr. Woodbury: At Galle, on the Island of Ceylon, from which the English steamers start on their voyage to the Isthmus of Suez, a colony of Dorsata (as he was informed) had established itself in one of the sheds of the steamship company!

My plan for testing and securing it would be substantially this: Send to Ceylon a thoroughly reliable and energetic bee-keeper. He should learn at what season the propagation of these bees might be most safely undertaken; should have all needed hives and other appliances made here, and carefully packed so as to occupy the smallest space, and be put together when he reaches his place of destination. He should take with him some colonies of Italian bees, well prepared for a long journey—obtaining them as near to the Isthmus as possible, in order to make their transport the safer.

On his arrival at the port on the Red Sea (Aden) where the steamers sail for Galle, he should lay over, one steamer, to give them a purifying flight, thus preparing them for the long sea voyage. Arriving at Galle, he should carry them to some place where Dorsata was in full work, honey gathering, swarming, &c. Here he could easily learn whether this variety could be domesticated, and if so, he could breed his queens on the spot. If he found it incapable of domestication, or for any reason not a desirable bee, he could ascertain if a cross between it and the Italian race, might not prove to be the long-desired coming bee. I need not enlarge. In 1859, Mr. A. J. Bigelow, at my suggestion, stopped over, one steamer, at Panama, and thus made the most successful importation that was ever made, of black bees into California. Adopting the same plan, he carried 113 small colonies of Italian bees, the next season, to San Francisco, his bees arriving in admirable condition, only two or three queens having died on the passage, and the colonies having as many bees as when they left New York. With such an expert as Bigelow, Dorsata, if capable of domestication, or any other variety of bee, might be brought here from almost any part of the globe.

Gerstaker seems first to have suggested the value of Dorsata, thinking that from the size of its proboscis and power of flight, it might prove to be a better bee than any now in Europe. The manner in which the natives secure its comb, as described by Mr. Wallace, demonstrates that it can be controlled by man, by the use of smoke.

Will our American bee-keepers raise a fund and obtain the services of some bee-keeper, not too old, strong, wise and of indomitable energy, to test this matter?

If our different missionary societies would, through their missionaries in India, China and other parts of the world, as they so easily might, send specimens of worker-bees, preserved in alcohol, to A. J. Cook, Professor of Entomology in the Agricultural College at Lansing, Michigan, much might be done to advance the cause of practical apiculture. His full and accurate knowledge of bees, and his great skill as an entomologist, would enable him to examine thoroughly the length of proboscis, wing power, capacity of honey-sac, &c., of those bees, and thus to direct us where to get the variety which by proper crosses would improve our present bees. Instead of so much theory and talk, let us get to practical work. With a mere pittance of the sums which have been spent in improving our domestic animals, we can do more in months for settling these questions, than the breeders of short horns, merinos, Alderneys, &c., have been able to effect in as many years. We want the best race of bees, or the best cross in the world.

L. L. LANGSTROTH.

Oxford, Butler Co., O., Nov., 1878.

For the American Bee Journal.

Chips from Sweet Home.

CHAFF.

In the Oct. No., page 347, of AMERICAN BEE JOURNAL, surely "chaff" was given by A. W. Foreman. The thousands of readers of the AMERICAN BEE JOURNAL did not get one valuable idea by which they could get one ounce more of honey or handle bees in less time, by reading that article.

A. W. F. says: "The note Mr. Palmer received from the publishers, confessed their ignorance." Is it wrong to confess ignorance by asking for information? Many times neighbor Scudder and I, as we have done to-day and hundreds of times before, learn of each other.

Again, A. W. F. says: "Because of this confession, it logically follows, that the balance of the book is equally worthless, which I believe has long been well known by scholars."

Which you believe? Then you have only hearsay or some unreliable source, and confess your ignorance in regard to the book, instead of being published, as you intimate, by saying "has long been well known," it is a recent work, and in fact is yet being published in parts in order to keep up to the times.

When a bee loses its sting it is sure to "die in a short time." How long is a short time? We say of the worker bee, that it lives but a short time; but does a bee die in consequence of losing its sting? How long does it live after los-

ing its weapon of defense? When persons are visiting our apiary and one of them is stung, or a bee loses its sting by any means, then you will hear it said: "That bee will soon die." But how soon? We don't know, neither does A. W. F., unless he gets his foot on it.

Many times we have bees about us while at work in the shop, apparently wishing to sting and some even do try it; but upon examination we find they are minus a sting; we have also caught them in the house, etc.

It has long been a mistaken idea that the queen rules; that she leads out a swarm; that she causes them to swarm; that there would be no swarming unless she wished; by her directions queen cells are built, etc. On the contrary, we find it is the bees that rule the queen; true they love and respect her, but only as a mother, and only when she acts as mothers do, they respect her as such by feeding and giving her room, allowing her to pass where she wishes; when she ceases to lay eggs, or but few, she gets her food out ot the cells and crowds her way among the bees the same as a worker.

Will A. W. F. help me to examine a few hives? See those queen cells with holes in their sides? The queen did that and killed the young queens. Why? Because she did not wish to leave the hive, and there she is to-day.

We open another. Hear that piping of queens? Hold that comb; there is the old queen. Do you see that pile of bees in the center of it? We brush them away and see what is in there; they stick and hang. There, now you can see. See what? Only one bee and she has her head in a queen cell. Pull her out and see that young queen. She came out of that queen cell. The bees were determined to swarm, and the old queen did not wish so to do. See the bees pushing the old queen back; now she goes on another part of the comb where bees are not so plenty and tries to pass. What for? Because she wishes to kill that rival; knowing that unless she does kill her, she will have to leave the hive. The bees rule, though the queen does not wish to swarm.

Since reading the A. W. F.'s article I have found several who have seen the bees pull, drag and crowd the queen out of the hive, and many times she is liberated only to return to the hive to be again forced out by the bees. In some cases they kill her, then in a day or two, take a young queen with them; sometimes the queen appears (from outside viewing) to come out of her own free will. But to find how much forcing was used, it is necessary to examine the interior, as we did in those two hives.

And now for No. 3. "The queen is never accompained by a guard of 12 workers, neither more nor less (*i. e.* by any certain number,) but a part of the time she is accompained by workers, which caress and feed her just in proportion to the number of eggs laid."

That which I enclose in the above explains itself. A. W. F. asks: "How did you obtain the fact of this proportion, Bro. D. D.?"

We answer: For many years we kept an observing hive (one comb with glass on each side) and by careful experimenting and watching at all hours of the day and night, and all seasons; we obtained the above fact and many others. "Go thou and do likewise."

STATISTICAL TABLE.

In the JOURNAL for Oct. is a table of the product of 200 apiaries, in answer to a call viz: "How many pounds of comb honey, extracted, also wax have you produced thus far this season?" I was at a loss as were many others to know what was desired from the above question. Some thought, the amount already taken off the hives, others the amount off and on the hives; and others the amount that we expected or had for the whole season. The question being indefinite, the answers were likewise indefinite. One of my neighbors reported 2,600 lbs. now off, his amount is over 7,000 lbs. Friend Newman, have you not done us an injustice in reporting thusly. "This gives an average of only 32 lbs. per colony, showing it to have been on the whole an exceedingly poor year." This has been a poor season with us. We had a month of fine weather in spring which set a large amount of brood rearing. During this month all looked prosperous, a large amount ot brood and plenty of honey; following this was a month of cold weather, during which this brood had to be fed and consumed in many instances every drop of honey and nary a hive any to spare; white clover was abundant but nights were cool, basswood failed and then extremely hot and dry until about Sept. 18, and during fall cool nights, (warm nights for flowers to secrete honey). Last year we had from 150 colonies 15,000 lbs. this season from 200 we will have about 11,000 lbs.

OUR CONVENTION AT NEW BOSTON,

Oct. 2, was a success, we had the best display of honey and apiarian supplies ever shown at any of our conventions. About 600 lbs. of honey being exhibited, 400 lbs. being from Sweet Home Apiary. The different articles of exhibit are too numerous for me to mention, and it is hoped our Secretary, who was sick during most of the season, will give a minute detail of each. Prominent among other exhibits were the articles of T. G. Newman & Son. The wax and honey extractors showed for themselves, but the fine amount of books, papers, honey knives, smokers, etc., was shown by our Secretary in a manner becoming any news depot. And what surprises me most is to know of men who keep bees from 200 colonies down, within a few miles of our convention, to either not attend, or if there, to not buy a bee book or paper, nor take no interest, not even to join. I will have to make one exception, being a man who 10 years ago was well posted on bees but since then has not taken bee publications nor attended conventions till this. He was not aware how much he had fallen behind, and bored the first speakers with questions till they were tired, and he had to be called to order by the chair, this too without becoming a member or subscribing for a bee paper. One of this class of men who a few years ago told me it was useless for him to take a bee paper, or buy bee books, because he knew as much as they, sells his honey

each year for much less per pound, because he is not posted. Such are the men who glut our market with honey, put up in inferior order, selling for what they are offered or can get, keeping the price of honey down.

We have just made 9 gallons crab apple jelly with honey, as directed in your work on "Honey as Food and Medicine," and find it equally as good as that made with sugar, and lighter in color. The honey flavor would be desired by those who like that flavor. We exhibited a sample of each at our Convention, and all thought the honey jelly best.

HOW TO GET BEES OUT OF A HONEY HOUSE

and not let any in. This we have long wished for: a window or door that will ventillate the room, allow light to enter, allow no bees to come in, but without our assistance will pass all out that may follow us in, or that may be on the honey which we bring in. Take out your sash of glass, and put wire screen on the casing outside, nail fast at bottom and sides, at top leave an opening of ¼ or ⅜ inch, by placing in strips of that thickness every 6 inches, through which to nail; have your wire cloth extend above the window about 12 inches, and secured against the building the same as top of window. Bees from inside will light against the screen of wire cloth, and immediately climb up, up and up (as it is the same light to them from without), and they are free. But those bees which wish to gain admittance will not try to find an opening against the building, where they can neither see through nor even get a smell, but will try to gain admittance at the window. The door may be made by making a frame of 3 inches wide, bottom and sides, top piece 12 inches wide, on this tack wire cloth within 1 inch of top of door. Try it and improve upon it, and let us know through the AMERICAN BEE JOURNAL the result.

New Boston, Ill. D. D. PALMER.

[It seems to us the questions were exceedingly plain—thus: "Number of pounds of comb honey produced thus far this season." Some few estimated to the end of the season, and those amounts were marked with a * and it was so stated in a foot note. The average of 32 lbs. for "thus far, this season" is small when it is taken into aceount that the reports are those of scientific bee-keepers. Had it been a promiscuous table, it would have been an exceedingly good showing. Friend Palmer seems to agree pretty well with us for he says: "This has been a poor season with us"—wherein then did we do an injustice?—ED.]

The Annual Convention of the Northwestern Illinois Bee-keepers' Association will be held at Shirland, Winnebago County, on Dec. 17, 1878. JAS. E. FEHR, *Sec.*

For the American Bee Journal.

How I Tamed a Stubborn Colony.

On Oct. 1st, I straightened up the combs in one of my bee hives preparatory to Italianizing the colony. Over half of the bees left for parts unknown, but the queen remained. Oct. 5th, I united the bees that remained with another colony. Caught and caged both black queens, and afterwards killed them. On the evening of Oct. 10th, I hung a cage containing an Italian queen in the hive. On the morning of the 12th, I opened the hive to release her Italian majesty. No queen cells had been built after I killed the two black queens; but I found freshly laid eggs—also larvæ, so I searched for another queen and I found her and soon had her beheaded. I then removed the cork from one end of the cage and tied a piece of paper over that end, supposing it would all work right. I closed the hive and did not examine it again for some days. When I did, I found everything just as I had left it. She had not been liberated, but the bees had started a number of queen cells. I tore them down and daubed the queen cage with them, then opened the cage, without removing it from the hive, thinking she would walk out. Some of the bees went in and seemed not to molest her; so I left them to themselves for an hour or so. When I went back I was not at all supprised to find queen still in her cage. I tried to smoke her out gently, but when she did come she came in a hurry and ran rapidily down the combs, out of the hive, and tried to fly; but I was too quick for her, I caught her and clipped her wing, ran her in at the bottom of hive; she remained about a quarter of a minute, and then came out again. I caught and put her in the top of hive and administered smoke. Next morning I found her on the bottom board. I gave them smoke to my entire satisfaction, and the queen is now all right, laying nicely. W. E. MCBRIDE.

Belleville, Ill.

For the American Bee Journal.

Secrets of Bee-Keepers.

I have been much interested in the reports in the Oct. JOURNAL. Some of them to say the least, have a mysterious look but I presume they can be satisfactorily explained. At this time I will direct attention to only two: B. R. Stephens, of DeKalb Co., Ill., bought 80 colonies of bees in the spring. By purchase and otherwise they increased to 102. Mr. S. claims to have secured from this apiary 1,000 lbs. comb honey; 8,000 lbs. extracted, and 80 lbs. wax. The wax was probably secured from the cappings of the extracted honey—being one pound of wax to 100 lbs. of honey. This indicates that much of the honey was thrown out of the combs before they were sealed.

The next report I have selected is from the Messrs. Oatman of Kane Co., Illinois. They claim to have gone into winter quarters with 185 colonies and to have begun the present season with 175. This shows a loss by sales and otherwise, of only 10 colonies, a very flattering result. Their

report shows that they have closed the season with 260 colonies, 7,500 lbs. of comb honey, 500 lbs. of extracted honey, and 150 lbs. of wax.

Now, if the reader will examine the Oct. No. of JOURNAL, for 1877, it will be seen that H. A. Burch reports this apiary as follows: "From 150 colonies of bees on June 1st, 1877, Mr. Oatman has increased his stock to 300." As the Messrs Oatman now report having only 185 colonies in the fall, of 1877, I presume they can satisfactorily explain what became of the balance.*

To complete the box honey report I hope the Messrs Oatman, will tell us how much of that is honey and how much is wood and glass. As the most of this honey is stored in small boxes having glass on two sides it would not supprise me at all if one-third of its weight is wood and glass.

I now come to the wax report which is more mysterious than all the rest. For one I should like to know, if not a secret, how to secure 150 lbs. of wax from the cappings of 500 lbs. of extracted honey. That is one pound of wax to a trifle more than three pounds of honey. In Mexico there is a stingless variety of bees that produces a large amount of wax, but I was not aware that we had such a variety in the United States. Gentlemen please explain.

M. M. BALDRIDGE.

St. Charles, Ill., Oct. 15, 1878.

*[In the absence of explanation, we should say that Mr. Burch counted the increase of Messrs Oatman, even though they had over 100 colonies. For they sold many colonies, to our knowledge.—ED.]

For the American Bee Journul.

Bee Pastuage in the South.

In a late JOURNAL some one inquires about the merits of alsike or Swedish white clover as pasturage for stock. I tried it in the same enclosure with red clover, and none of the animals would touch the latter until the last root even of the alsike was devoured.

I was much pleased with Dr. Brown's article on Bee Pasturage in the South; but he should have mentioned sourwood in it. The variableness in the yield of honey from any specified source is well known, but not always remembered. Until last year I never saw bees work on white clover, and so I concluded that in this latitude it would not yield honey. This is the first year since I commenced keeping bees that I have been without buckwheat. I had a half bushel or so of seed but could not get it planted. To make up for its absence from the fields, the bees are gathering honey from several varieties of plants I never saw them visit before.

The writer on "The Sourwood Tree" did not mention its early blooming. I have seen little bushes of it in bloom when only a foot or so high. It is indescribably brilliant in the fall of the year. It has not commenced yet to put on its brightness.

ANNA SAUNDERS.

Woodville, Miss., Oct. 21, 1878.

For the American Bee Journal.

Wintering Bees.

Having been requested to give to the many readers of the BEE JOURNAL my mode of wintering bees, as practiced in this locality, without loss or moldy combs, I will try to make it so plain "that wayfaring men, though fools, shall not err therein."

Choose any soil that is a little descending, and not under water in the spring. Plow, with a corn-plow, furrows the width of hives, as long rows as you need. Throw out the earth on both sides, making the ditch or trench 4 or 5 inches deep, except the lower end, which will be nearly on the surface.

Put any kind of boards in bottom of the trench, then fill the trench with long rye straw. Place it as you would to thatch, commencing at the deep end of the trench.

Place 3x4 or 2x3 inch joist on the straw, against the outside of trench. Now place the hives on the joist close together, with caps removed, also the honey-board or canvas, and place cotton quilts or mats over frames.

Place long straw on the top, commencing at the lower end, 4 or 5 inches thick, letting the straw project over the end hives 2 feet. Stand straw on the butt-end against the hives, on each side and ends, 4 or 5 inches thick. Now place boards 10 or 12 inches wide slanting against the straw and hives on both sides. To form roof, nail together boards 10 or 12 feet long the width of hives, thus, △. Bend the straw standing upright over the top of the hives, and this roof holds it down and leaves a space over the frames on top filled with straw, as well as at the bottom of the hives. If row of hives requires more than one length of roof, where they come together pull out some of the straw that lies on top of frames, right and left, about 4 inches in diameter. Bind this, then crowd the roofs together as close as the straw will admit. Bind the straw to a cone or to resemble the nozzle of a Bingham smoker. Place short pieces of boards slanting at the ends of the hives under the ends of the roof and straw that lies on top of the frames.

Cover the whole with earth from 3 inches at ridge to 4 or 6 inches at base.

Now we have a mound, say 40 feet long, with the straw and boards of the bottom projecting some two feet beyond to carry off any water that may collect, and at top of ridge three perpendicular straw ventilators, and a horizontal one at each end. By the earth being removed from each side to cover the bees, the trench under the bees will be the highest, and to keep it dry plow a furrow to drain off any water that may collect.

Thus they remain quiet, not being disturbed or affected by the heat or cold until the maples look red, or they can find pollen; then remove them at night to their summer stands.

This mode of wintering is no new thing. It has been tried successfully in this locality for a number of years.

The most of our hives have loose bottoms, so the bees come in contact with the straw under them.

I formerly wintered in the cellar. If I have choice colonies and want to kill them

without brimstone, I put them there, and when opportunity offers carry them out for a fly, and return them, each time many bees less. Being confined, and more or less disturbed, they become uneasy, and when put on their summer stands they are weak, exhausted, and soon perish, and by the 1st of June they are all gone. I have been tugging in and out all winter, and gained my object. But by way of excuse term it "spring dwindling." H. W. GARRETT.

Coeyman's Hollow, Albany Co., N. Y.

A Valuable Receipe.

The following recipe I have used for the last 13 years, for hog cholera, saving at least 75 to 90 per cent. of all treated. In consideration of the present wide destruction of hog property, I have concluded to make it public, so that an end may be put to the plague. You will confer a favor on all owners of hogs by its publication.

Tincture aconite root, nux vomica, each, 3½ ounces; rus tox, belladonna, secale, buptina, each, ⅛ ounces; white arsenic, 10 grains. Mix.

I have kept the cholera down in my immediate neighborhood for the last 13 years, and as the medicine can be had at almost any country drug store, the publication of the recipe will do a great deal of good. It is a sure preventative. Directions as a preventative. Five drops once a day to each hog in his swill. When the hog is down with the cholera, 10 to 20 drops down either mouth or nostrils. Some claiming each method the best to administer the medicine. Always label the bottle deadly poison, and keep in a safe place away from children.

Buffalo Grove, Iowa. J. M. PRICE.

For the American Bee Journal.

Motherwort.

I have watched with a great deal of interest to see if anyone considered motherwort a bad weed. I believe it to be a good bee plant, and think in many soils it may not be troublesome.

When I lived in the State of New York I saw it growing in out-of-the-way places, by the side of the road, and neighbors garden and classed it with catnip. Twenty-one years ago my mother sowed a little seed here. It did not come up at first; but afterwards, when we found a few plants, we greeted them as an old friend. After a while we thought it was increasing faster than we wanted it, but had no fears of it, till a friend visiting us says, you have quite a patch of motherwort. I asked if she would not like a few plants. The reply was, "Don't you put any of that on to our farm." And then she said, "I have it in my flower garden. I suppose it was sown with some seed, but I cannot get rid of it. It will keep coming up." We found it an easy matter to dispose of the roots, but there was the seed in the ground. We were not as thorough about it as we ought to have been; plants did go to seed. Still we kept it from spreading. The place was rented for three years. When I came back four years ago this spring, it had come up several rods from where it was first sown. And the first thing that was done was to have all the roots dug up with a determination that it should not go to seed again if we could help it.

The second fall we seeded down what ground we could, but that grass had to be weeded as you would a flower garden, till it formed a good sod; and to-day the little plants are coming up from seed, and I do not think there has been any seed scattered since five years ago this fall.

Anything that produces so much seed, and if the seed will be so long in the ground and germinate, is a bad weed in our prairie soil, especially if its perrenial. I think corn could be successfully cultivated where it has grown. But as clover ground is sometimes planted to corn, for three or four years, then sowed to small grain, and in the fall it is seeded to clover again. I think you would invariably find it so with motherwort. I would like a good bee plant, but I am afraid of it. C. P. ALLEN.

Cambridge, Ill., Sept. 23. 1878.

"The Blessed Bees."

I have just received from my friend the author "The Blessed Bees, by John Allen," and I scarcely looked up from the volume, before I had scanned all its fascinating pages.

The book is simple in style, yet very terse, and will charm no less than instruct the reader.

This work graphically portrays what may be done in apiculture, even the first year, if proper preparation is made. Once to think of spending $34.65 for reading matter, before even commencing the practical part of the art! Yet a thorough mastery of the works procured, by this seemingly extravagent outlay, was the necessary prelude to the author's unparalleled success. His previous study and discipline made this mastery possible.

I have read the book with the more pleasure, as it exemplifies what I have long felt to be true, and often stated, that apiculture offers rare inducements to him who will adopt its pursuits intelligently and energetically, not only for its pecuniary possibilities, but also for the wholesome pleasure which it yields. Nor is it a light joy to think that I induced one to undertake a work which, in the retrospect, makes him to exclaim "The Blessed Bees."

In concluding this brief notice, I would enforce the caution urged by the author: "Every person who begins bee-keeping must not expect as great success as I had the first year. *There are few* who will study the business as I did; there are few who can secure locations as favorable as mine, it is not always that the season is as good as was my first year. That when the conditions are as favorable, a success as great as mine can always be achieved, I am thoroughly convinced." I would add that success like that detailed in these pages will be very rarely repeated; but a result much less might well make the young apiarist radiant with delight.

Lansing, Mich. A. J. COOK.

For the American Bee Journal.

Standard Langstroth Hive.

Within the past two years I have seen some inquiries and replies in regard to the size and shape of the hive and frame preferred by Mr. Langstroth; but have seen no correct figures upon the subject. By examining the directions for making hives in the revised edition of Mr. Langstroth's book, it will be seen that the inside of the hive is 18 inches in length, 14⅛ inches in width, and 10 inches in depth. The outside length of the frame is 17⅜ inches, instead of 17⅝ inches as given by Messrs. Newman and Root. This is an important mistake, as it destroys the interchangeableness of the frames. The hive being 18 inches long, and the frames 17⅜ inches, the space between the end of the hive and the frames is precisely 5-16 of an inch. This is ample space, and was decided upon by Mr. Langstroth after much experimenting. At the time Mr. L.'s book was revised, he preferred to have the top-bars of the frames 1⅛ inches wide, but if I am not mistaken, he afterwards came to the conclusion that it was better to have them only ⅞ of an inch wide, which is now generally the preferred width. Mr. L. makes the top bars 19⅛ inches long, but I think if he had used them only 18¾ inches long he would have liked them better. The width of the hive, whether 14, 14⅛ or 14¼ inches is not so essential, as any of these widths will answer for 10 combs. But the main thing is the depth and length of both the frame and the box. These should always be the same, if the object is to make the standard Langstroth hive.

St. Charles, Ill. M. M. BALDRIDGE.

[True; we desire, above all, to be *exactly* correct. Preferring to have Mr. Langstroth decide the point, we sent him an advanced proof for his decision. His answer is as follows:—ED.]

[Mr. Baldridge is in error in supposing that such slight variations as he notices destroy the interchangeableness of the frames. Considering the accuracy which may be obtained in making the frames stiff and perfectly square, I prefer the measurements of Messrs. Newman and Root. While beginners may get along better with ⅞ width for the top bars, I still prefer, all things considered, 1⅛. For more than ten years I have made the triangular guide *very small* (not much over ¼ of an inch), and a part of the top bar, so as to need no nailing. This causes the bees to lengthen the pentagonal foundation cells so as to get a little better attachment than when they are built on a plane surface. With the old ⅞ triangular guides, they usually closed the pentagons *very near the shank edge*, and heavy combs often fell out, when not very carefully handled.—L. L. LANGSTROTH.]

For the American Bee Journal.

Theory and Experience.

We are told that a pure queen of the Italian blood will produce pure queens. If her daughters mate with black drones, their progeny as queen and workers will be hybrids; but their drones will be pure Italians. Now, if these pure drones mate with hybrid queens, would it not purify the queens and workers, and tend to restore the Italian blood? Then, suppose one should re-queen an entire apiary in one summer with the daughters of a pure queen, so that all the drones shall be pure next year, why should not the queens and workers become purer and purer by the force of the law of nature as propounded in the theory? Still more, should they now and then mate with a black drone, why should not the great dominance of Italian blood rule out all black blood in course of time. But is it not true, in fact, that the apiarist to get pure Italian blood and keep it pure, must be ever infusing the pure blood of a foreign queen, or of one of undoubted purity—a daughter purely mated! Still more, how many bee-keepers receive imported queens which produce three-banded drones and their daughters do the same. My experience is not very extensive, but I begin to suspect that the notion that the drones of pure queens which mate with black drones are more or less tainted as well as the queens and workers. If I had time, I should try one drone-laying queen from an imported mother, and supply every hive with all the drones I wanted tolerated in my yard. And then I would see what effect this would have on the next queens and their brood. To my mind, the common sense way would be to secure a pure queen for raising queens and a prue drone-laying queen, for drones. Has any one tried it thoroughly? If so, your readers would I think be glad to read an account of the process pursued and the results. NOVITIATE.

For the American Bee Journal.

Comb Foundation.

In reading the November No. of AMERICAN BEE JOURNAL, one here and there finds the complaints of comb-foundation sagging when used in the brood-chamber, and a remedy is sought after in various ways. Friend N. N. Betsinger, even experimented to the amount of $1,000, and still without the desired result.

I have now used comb-foundation for three seasons, the last two seasons quite extensive, in fact every comb in my apiary built this season, was built on foundation. When I first used the foundation, I used them 9 inches deep, they stretched in the upper half, so that about 3 inches of its width was not used by the queen for breeding purposes the first year; but the following spring I found to my dismay that every comb had a piece of drone-brood about the size of my open hand, which had to be cut out and replaced with a piece of worker comb, in order to fully control my drone supply for queen rearing.

I next used foundation 8 inches in width, with much the same result, after which I tried 7 inches and 6 inches in width, which gave more satisfactory results. The 7 inch strips would sag enough to find a row or more of drone-brood occasionally; but when used only 6 inches or less in width, and made of pure beeswax, the slight sagging did not prevent the queen from filling them in every instance with worker eggs. But now a new difficulty presented itself; below this narrow strip of foundation, the bees would frequently build drone-comb, and the much desired sheet of "every cell of worker size" seemed yet in the future. A remedy came at last. My frames hold a comb 12 inches square, and, finding I could not use foundation over 6 inches in depth successfully, I divided the comb space in the frame, in 2 equal parts, by placing a temporary center bar into it; I next fastened a piece of foundation 5¾ inches in width to the top and a similar piece below the center bar, and I had it. But what about that center bar? Doesn't it occupy space that ought to be filled with brood, &c? Easy, friends; I had my lesson in center bars 15 years ago. These center bars of which I write, are placed in the frame and fastened with one ¾ inch finishing nail in each end, the head of which slightly projects on the outside of the frame ends; and as soon as the comb is built, and sufficiently strong to support itself by the side fastenings, the nails are drawn out, a knife passed under the center bar, and the bar withdrawn. In one or two days the space occupied by the center bar is filled with worker comb. In this manner I have obtained over 300 combs, each a foot square, built solid without a single drone-cell; and have several hundred combs in the hives, that still have the center-bar left in, being filled with honey and deemed insufficiently strong, being built late in the season; but otherwise are all worker-comb. From these the center-bar will be removed when I make the usual spring examination.

Friend Godfrey, of Red Oak, to whom I communicated my success with *temporary* center-bars, prepared several hundred frames in that way, and as far as heard from, with the best result.

Nearly two years ago I wrote to "Novice" on the subject of comb-foundation sagging, and suggested linen or some kind of thin cloth for a base, and submitted to him a piece of tracing linen, a remnant from a piece used by my father in 1842 for the same purpose; he soon thereafter sent me two specimens of foundation one apparently on the same tracing linen, which I had sent him, and the other on very thin muslin, or cheese cloth. On page 64, Vol. V. of *Gleanings*, Novice informs us that the bees would gnaw out the threads of the cloth, &c. Desiring, however, to test the stretching quality, I placed them in a frame and joined an 8 inch strip of common foundation below it. The common foundation sagged very much, but the foundation on the tracing linen, nor on the muslin sagged a particle, although the machine had broken part of the threads one way, but by turning it so that the broken threads run horizontaly it made no difference. Now Novice's bees would "get hold of a thread, and then they would tear the cloth all out," but mine behaved more respectfully, and built it out into full combs. What made the difference? Was it because I covered the ends of the threads by joining another piece of foundation?

While on the subject of comb-foundation, I will take the liberty of mentioning a case of misplaced credit: Root claims being the first to mention rolls for foundation machines, and foundation miles long; and even Prof. Cook commits an error when, on page 203 of his "Manual" he says: "It was first made by Herr Mehring, in 1847," and on page 204: "They" (the Germans) "used plates, not rollers, to stamp the wax," and again he says; "In 1868, the King Brothers, of New York, made and secured a patent on the first rollers." Even Novice used soap suds and slippery-elm bark to prevent the wax from adhering to the rolls; until a friend called his attention to starch.

Now the fact in the case is this, comb-foundation was made in Germany in 1842, by my father; they were made by a pair of engraved rollers, and starch was used to prevent the wax from adhering to the rollers. This I mention simply as a historic fact; and to corroborate my statement I refer the readers to page 35 of "The Bee-Keepers' Guide Book," which was issued in February 1868, and 10,000 copies circulated in little over a year; in it I give the following description, "among the earliest of which, probably Kretchmer's comb-foundation can be counted,—who invented and used them in Germany, I think as early as 1843. The device consisting of a strip of tracing linen, coated with a composition of white wax and starch, and upon which the comb-foundation or base of the cells were impressed, by passing it through a pair of engraved rollers." Here we have a description of engraved *rollers*, and *starch*; before Novice ever mentioned rollers, and before King Brothers applied for their patent, as a copy of the book was presented to them as soon as issued. And at the time the description was printed, the device was nearly a quarter century old. More anon by your servent

E. KRETCHMER.

Coburg, Iowa, Nov. 9, 1878.

For the American Bee Journal.

Adulteration of Sweets again.

Mr. Root has successively given three motives for refusing to publish the petition against the adulteration of sweets. The first motive was that the petition was not of sufficient importance. The second, that we ought to let demand and supply regulate these questions, and lastly, the third (probably suggested by the manufacturer of glucose), is that the petition says that glucose contains sulphuric acid and lime. Mr. Root asserts that sulphuric acid and lime cannot exist in an active state in the same substance. The petition does not assert that both of these substances would be found in an active state; yet Prof. Kedzie has found both of them in several samples of glucose that he has analysed.

Mr. Payess, a well-known chemist of Paris, in his *Chimie Industrielle*, says that glucose is unwholesome on account of the sulphate of lime that it contains. Sulphate of lime, or plaster of Paris, is a compound of sulphuric acid and lime.

Charles Loudon Bloxan, professor of chemistry in King's College, London, in his "Chemistry Inorganic and Organic," says that it is easy to detect glucose in syrups and honey, on account of the sulphate of lime of the glucose.

Mr. Root admits that to manufacture glucose *an acid* is used. But he does not give the name of the acid, as if intending to give his readers the impression that some other acid, less unhealthy than sulphuric acid, could be used. He continues, speaking of the petition:

"I presume the Davenport factory uses car loads of both the chalk and *the acid* in this chemical process, and this may have given rise to the *thoughtless statement* made above. *If* grape sugar (glucose) is made in so slovenly a manner as to contain articles prejudicial to health, the matter should, by all means, be taken in hand."

I admire that "if" and the "*thoughtless statement*"! of my opponent. My statement is based upon proofs given by the best chemists of France, England and the United States; they all say that glucose always contains more or less of sulphate of lime. But Mr. Root simply expresses his doubts! It is wonderful how foolish self esteem will make a man appear! He continues:

"The refiners of cane sugar use tons of blood and offal of the slaughter houses, as well as burnt bones; but our sugar of commerce contains none of these articles."

I am very far from being a chemist, yet I can see the difference between a mixture and a combination. In the manufacture of glucose there is a combination between corn starch, water and sulphuric acid. The result of every combination is a new compound: here it is GLUCOSE! In the refining of sugar there is but a mechanical process, a mixture, not a combination. The blood is mixed with the syrup; it coagulates, forming a kind of net-work through all the syrup. This net-work seizes and draws to the surface all the impurities of the liquid, while the burnt bones become a filter! But the comparison of Mr. Root is valueless, since one of the processes is a chemical combination, the other a mechanical mixture.

One of the main arguments of Mr. Root, and reiterated by him, is that he can eat glucose without bad results!

Some years ago, while traveling in Switzerland, I noticed that the inhabitants of a great many villages of Valais, were *rickettish* and *goitered*. The scientists assert that such a deterioration in men comes from the use of the water that runs down the valleys, from the melting of the eternal snows which cover the tops of the mountains. Some medical authorities think that snow is not the culprit; but that these rivulets, in their rapid course, run over ores of mercury. I freely drank of the same water, and I would have been laughed at had I said: "The scientists are mistaken; this water is wholesome. I drank it for several days without being rickety." Such is the reasoning of Mr. Root! As glucose did not poison him, the quantity of sulphate of lime being too small to act sensibly on his stomach, he concludes that glucose is harmless! Drops of water, falling for years, will wear away stones, and a poison, like sulphate of lime, has a power of deterioration certain, although at first insensible, on the human organs, and on the organs of bees, too.

My opponent not only takes sides with the adulterators of honey, but he denies that cane sugar can be adulterated. Of course his reasonings are of the same kind and strength as those on glucose (see *Gleanings* for October). He puts a lump of sugar in a glass of water; the water remains clear, therefore the sugar is pure. Such is the test of this editor! This test is cheap and easy, but it proves nothing! Will Mr. Root take a moment's rest, and read from the Chicago *Tribune* of October 7th, a statement made under oath by Mr. William T. Booth, of the firm of Booth & Edgar, sugar refiners of New York. The firm of Booth & Edgar enjoys, morally and financially, the highest commercial credit. Mr. Booth testified before Fernando Wood, chairman of the ways and means committee of Congress, Sept. 18. The inquest had for its object to ascertain if frauds existed in the refinery business.

The sugars imported are taxed at the custom houses according to their qualities, the most inferior qualities, such as the milado, paying only one and a half cents, while the refined pays five cents. It seems that some unprincipled refiners have found a cheap way to turn the inferior article into a good-looking article, and thus defraud the government of the greatest part of its duties. Mr. Booth says:

"I tell you, sir, that adulteration of sugar does concern the committee of ways and means; it concerns the board of health: it concerns everybody. Think of it; by-and-by, when the people of this country have eaten enough of this sugar to become tin-lined, so that the stomach and bowels shall be coated with tin. What a pleasant thing it will be for us, fathers of families! Our children won't cry any more; there will be no more stomach-ache, for the stomach will be tin-lined.....

"What has been the history of this race in adulteration in every business? Why always the worst man wins. It is the man who will go farthest, who will sell himself body and soul to the d—l most completely, who wins in that race.....

"A man came to me some time ago and said: 'Doctor, you are a fool!' I said: 'It may be; but I am an honest one.' Said he, 'You know about that glucose business, don't you?' Said I, 'Do you think I am ignorant and don't know my business? Do you think I don't know what is going on in all these refineries?' 'Well,' said he, 'you are a fool! Why don't you go into the glucose business? Your firm has had the reputation of making good, straight, honest sugars, and you can put glucose into them, and nobody will know about it!' 'But,' said I, 'when I die, I will die honest.' I have had men come to me, week after week, offering me this and that adulteration, and saying 'others use it. I sell car-load after car-load of it to this and that concern; they are all using it in large quantities.' My position as a refiner has been such that I have been enabled to know just about what was going on in regard to this glucose business; and I think we shall all hear more about it by-and-by? No, sir; this talk about the adulteration of sugars is *not* bosh."

Will my opponent be convinced by all the proofs that I have gathered? I dare not hope it; for none is more deaf, than those who refuse to hear!

Mr. Root says that we have State laws. Yes! But they are dead letters; they cannot be enforced.

Suppose that a dealer of New York sells pure glucose honey to a grocer of Hamilton. The law gives me the right of prosecuting the grocer for selling an adulterated article and the grocer will be fined, but the rascal who wholesaled or manufactured the adulterated article, will be free, on account of the difficulty and cost of prosecuting him in another State! The innocent sustains the loss while the guilty goes free.

It would be altogether different with a law made made by Congress, and the watching of food inspectors. Every transgressor would fear to be prosecuted and the adulteration would be stopped.

But to obtain such a law we need the help of every one; so get the petition signed. Not one of us should be without a copy; obtain signatures of all our neighbors, and return it filled with names. Send a postal card at once to get one.

Again, Mr. Root says:

"It is a singular fact that although glucose is a liquid and grape sugar a solid, the latter contains a much larger per cent. of water, held by a curious law in chemistry, in a solid state. If we produce the grape sugar by adding more chalk, as friend Dadant suggests, I am afraid we should soon come to grief, for chalk is an insoluble compound, and the first lump of sugar our purchaser puts into his mouth would reveal the cheat. I know, by the letters received, that there are those so thoughtless as to suppose that it is possible to add chalk. Will those people please dissolve a lump of grape sugar in a little warm water and see if it does not all dissolve perfectly?"

After giving such proof of his knowledge in chemistry and common sense, the editor continues:

"I might have published the article, it is true, and it may be my duty to give everybody a hearing, even should they send in a paper claiming that the moon was made of—chalk; but would it be profitable to occupy space thus?"

I answer, chalk is carbonate of lime. In the tank, where glucose is manufactured the lime of the chalk combines with sugar and forms other compounds. My answer is: Sugar will form with lime several compounds very soluble in water.

Liquid lime is also found naturally in the water of some springs, which, as soon as it comes in contact with air, deposits its lime on the objects on which it runs; in the sap of trees and plants, in whose ashes lime is found, etc.

Mr. Root believes too much in his own infallibility in bee-keeping, chemistry and other matters. What is not in accordance with his imagination is wrong; is nonsense and moonshine! And we, his readers, know that his imaginative power is very large!

I am not alone in thinking that Mr. Root's paper would be greatly enhanced in value if he desisted from his steady habit of expurgating from the bulk of the articles received everything he does not endorse and thus to pronounce judgment on every article published. Such as are now contained in *Gleanings*, to use the expression of one of his friends, have proved to be a simple medium for the advertising of wares of the editor, with an intermixing of mere boy-talk.

CH. DADANT.

Hamilton, Ill.

For the American Bee Journal.

The Variableness of Queen Progeny.

FRIEND NEWMAN:—Of late I have been reading with more interest than usual, on the variableness of the queen progeny and the color of the Italian bees, the fixing of a standard of purity for the Italians, and light vs. dark Italians. On page 262, A. F. Moon says: "locality makes a difference in color." That is very true, but he says nothing about the season of the year. On page 268, S. D. McLean says: "the queen's abdomen should be bright yellow, tipped with black with or without the black points on the back." Jos. M. Brooks on page 273 calls for "Princesses, exact duplicates of their mother." Alva Reyonlds on page 278 A. B. J., "it is a well known, &c., black bees were pure blacks from the beginning, and reproduced themselves all alike, regardless of sex." But they are not parti-colored, and the Italians are, and that is where the trouble mostly lies. Now, I cannot see why a standard of purity for the Italian bees cannot be made, as well as the American standard of excellence for the poultry breeders to be governed by; but a scale of points would not be quite as easily determined as it is on fowls. Why should not bees be bred to a particular description as much as fowls or cattle? There is a variableness in all kines of stock I care not how pure or how carefully they are mated and bred. I should like to see a queen that will duplicate herself every time in her queen progeny for two generations. A queen that is of a clear light color, and can do it, would be worth $100.00 to any breeder. I think it can be done, and yet I doubt that it will be done because no bee-keeper will take the trouble to do it. If a queen duplicates herself in one-half her queen progeny I should be well satisfied, and one of the great secrets I feel sure, lies in the mating or drone influence, and to explain I will relate some experience in fowl breeding and the results of different mating.

My favorites have been light brahmas and buff and patridge cochins; the two first I kept for seven years, the latter for five years. My first brahmas and buff bred true to color and markings, but to put in new blood I purchased thorough-bred males of both kinds, but the chickens raised were anything but uniform. I had to breed back again, before I obtained any uniformity of feather or color.

A queen is as liable to vary in either her drone or queen progeny as a hen is in her pullets or cockerels.

I have kept the Italians for five years, and from the dark queens obtained when I made a cross, I have in the second and third generation raised as even-colored young queens as I did from the light-colored ones, but just as soon as I put in new blood I have had this experience over again; it can be controlled to a certain extent.

If you want the light colored, select the strongest and most productive light colored colony; from that raise drones, this is No. 1; then get a one or two-year-old light colored queen to raise queens from, this is No. 2. Mate the young queens with the best light colored drones from No. 1; test them for

color and strength of both drone and worker progeny. Select two more colonies from the light colored young queens, regardless of the color of drones; we will call this No. 3; and the one with light colored drones No. 4. Start cells from No. 3, and mate the queens with drones from No. 1. Start cells from No. 1, and mate with drones from No. 4. Start cells from No. 4 and mate with drones from same hive. This is not in-and-in breeding; the queens from No. 4, are only half sisters to No. 4 drones, the drone sire having no influence over the drone progeny and by breeding in-and-in and selecting carefully, you will not only know what you have, but will positively establish any particular type that you wish. By selecting the strongest working colonies for breeding, and dispatching those that are weak and poor honey gatherers you will establish a type, and will lose no strength.

A standard, close and strict, will not make bees breed to a particular color or size any more than the standard of excellence will prevent black necks on the light brahmas or yellow on white leghorns! Any thoroughbred bird or animal may be bred regardless of selection, and vary, without being impure—bees not excepted. H. L. JEFFREY.

Woodbury, Conn.

Our Letter Box.

Hillsboro, O., Oct. 11, 1878.

We had 57 colonies in the fall of 1877; lost none during winter; lost 1 in the summer; have now 71; sold 1, and had 3 new swarms go off. Wintered out doors, 13 packed in leaves, all wintered well. I have taken 2,100 lbs. of comb honey. I never used the extractor. We sell our honey at 16 and 17 cents wholesale. We use mostly 4 lb. boxes. We have no Italians.

THOS. H. DICK & BRO.

Henry, Ill., Nov. 9, 1878.

I have obtained 2,000 lbs. of white clover and basswood honey, besides 1,500 lbs. of mixed honey this season, from 170 colonies in the spring (now 200). Does oak bloom, timothy, hemp and aspen produce honey? All in this section like the AMERICAN BEE JOURNAL and wish it success.

OTTO HALBLEIB.

[The aspen yields some honey; some of the others named give pollen, but little, if any honey.—ED.]

East Berkshire, Vt., Sept. 18, 1878.

DEAR EDITOR:—Being interested in bees and honey, I desire to inquire if something cannot be done by County and State Agricultural Societies to advance bee-keeping interests by way of offering a subscription to the AMERICAN BEE JOURNAL for the best display of honey; Italian queens and implements might also be offered. Two years ago, there were only two exhibitors, of honey. At our State Fair this year, there were six. So you see scientific bee-keeping is on the rise. We have no Bee-Keepers' Society in our County (Franklin) yet, but think one may be organized this winter. The season has been very good since June 15th, but the month of May was very poor, so much so, that I had to feed to keep some of my bees from starving; fruit blossoms were of no account. Have averaged about 70 lbs. of comb honey per colony and doubled my number of colonies.

F. W. COMINGS.

[Some of the managers of Fairs have already given a year's subscriptions to THE AMERICAN BEE JOURNAL as a premium, and if bee-keepers in each locality would write to the Managers of the Agricultural Societies in their locality, suggesting such a plan of proceedure, they would in nearly all cases be glad to offer such a premium.—ED.]

Claypool, Ky., Oct. 7, 1878.

DEAR EDITOR:—The past season has been a poor honey season with us. The spring was favorable up to the last of May when it set in cold and wet, continuing so for about a month. On this account our white clover crop was a total failure. Bees gathered no surplus from June 1st up to about the middle of August. From the 20th of Aug. till Oct. 1st, we had a moderate flow of honey, enabling our bees to go into winter quarters in good condition.

Below is a statement of our seasons operations:

Apiary	Dr.
To 43 Colonies in spring @ $10. each.	$430.00
" Apiarian supplies on hand.....	50.00
" Apiarian supplies for season.....	46.00
Total.....	$526.00

Apiary.....	Cr.
By 65 Colonies in fall @ $8. each.....	$520.00
" Apiarian supplies on hand.....	50.00
" 50 empty hives on hand @ $1.....	50.00
" Bees and hives sold.....	70.75
" 1,200 lbs honey @ 10c. per lb.....	120.00
" 30 lbs. wax @ 20c. per lb.....	6.00
Total.....	$816.75
	526.00
Balance in favor of Cr.....	$290.75

JAMES ERWIN.

Mt. Joy, Pa., Oct. 17, 1878.

In answer to a question in the BEE JOURNAL for Oct. I would say, that bees can get honey from red clover, if the weather is of the right kind. If there be no rain for a month before its blooming, the clover heads will not get so long, and the bees can reach the nectar. The past season has been a poor one; May and June was wet but about July 18th, when the second crop of red clover bloomed after being mowed, the bees worked on it with a will. I got from 40 to 50 lbs. of red clover honey from some of my colonies. There was nothing else, and had it not been for it my colonies would not have had enough to winter on. The black bees gathered but little from red clover, and are now short of honey for winter. Alsike clover is as good as red clover, for feeding purposes—perhaps better. J. F. HERSHEY.

Brandywine Summit, Pa., Nov. 14, '78.

"I received seven first-premiums and diplomas at the Delaware County Fair, for having the finest display of honey, bees, bee-hives and apiarian implements."

J. T. WILLIAMSON.

Philadelphia, Pa., Nov. 11, 1878.

Nice comb honey is selling here at 25 cents per pound. It is sad to see the amount of bottled honey (so called), which I suppose contains only 40 per cent of honey, and one I sampled contained no honey at all. Should I find time I shall put a few of the samples found in commerce to a test.

W. B. RUSH.

Limerick, Ill., Sept. 9, 1878.

A woman living across the corner from here, had a swarm of bees put into a common box 11 years ago. They swarmed every year since, and gave some surplus. In 1877 they gave 4 swarms, and one 10 lb. box of honey. In 1876 3 swarms and two 10 lb. boxes of honey. One other year it gave 3 swarms, and then she sold it to me for $6.25. It gave me 2 swarms this year and is good for 20 lbs. of honey. The first swarms generally sold for $5.00, without a box, the buyer taking them home at night. She has been for years successful in wintering; she leaves and empty honey box on top; when frost gathers in it, she drys it; said hive stood on a bench one foot high, winter and summer, in a three sided shed opened to the South; the front board of the hive being 2¼ inches shorter than the rest, making the entrance the full width of the hive and 2¼ inches deep. This swarm has paid for itself several times.

E. PICKUP.

Dundee, Ill., Oct. 7, 1878.

The spring of 1878 opened early with us. We put our bees out on March 4th. They soon began to carry in pollen, and rapidly increased in brood, and by the time fruit trees bloomed they were ready for work. Then cold rains came, and frost, and as a result they barely got enough to live on. A part of May was quite warm, and on May 11th in the afternoon, the first swarm issued and on the following morning the second. These I was obliged to feed. White clover came on about the middle of June, and the bees were again ready for business. We took 1,200 lbs. of extracted honey and 65 lbs. of comb. The average from each colony was 70 lbs. I increased mostly by natural swarming. We have 42 colonies, one-half of which belong to me. As I have all the care of them; it will take all my time next summer. I owe nearly all my knowledge to the AMERICAN BEE JOURNAL. We wish it prosperity.

FAYETTE PERRY.

Chattanooga, Tenn., Nov. 6, 1878.

FRIEND NEWMAN.—I see that I have been appointed a Vice President of the National Bee-Keepers' Association. This is a compliment entirely unsought by me, nevertheless it is appreciated. I take pleasure in forwarding to you $1.00 which I believe is the initiation fee? Please enroll me. If the fee is not right I'll make it so. I have never been able to attend the meetings of the Association, and do not see any prospect ahead for doing so, but I will take great pleasure in co-operating with the faternity for the general good of the art and trade. Please accept of my hearty congratulations upon the manner of the Association's selection of you for President. You are undoubtedly the man that can serve them best.

S. C. DODGE.

[Thanks, friend Dodge, for congratulations, but more for the expressions of determination to co-operate for the good of producers. The Association will come nearer to you soon, we expect, and then we shall be glad with your presence, if you cannot come to the next meeting at Chicago. We hope you will try to do so.—ED.]

Wilmington, N. C., Nov. 18, 1878.

FRIEND NEWMAN:—I see by your valuable paper that I have the honor to be elected one of the Vice Presidents. I assure you no one feels more deeply interested in the subject of bees than myself, and whatever I can do to further the interests of apiculture, you may rest assured I will gladly undertake.

R. C. TAYLOR.

[Yes, friend Taylor, your interest in bees, and busines-like habits procured your appointment. North Carolina is a good State, and contains many bees, but exceedingly few apiarists! The work of procuring the adoption of scientific principles in your State lies before you. Neighborhood bee-talks; and County and State Conventions loom up as the result of your labors! Lo! your State is ripe for the harvest. Buckle on the armor and victory is yours.—ED.]

Medford, Minn., Nov. 16, 1878.

The results of the year have been poor; the fall crop was fair, and helped to fill up the hives so they are in good condition for wintering. My crop was a few pounds less than one ton. Nearly 1,600 lbs. of extracted and 385 lbs. of box honey. I comenced the season with 41 colonies and increased to 56.

J. E. CADY.

Harrisonville, Mo., Nov. 16, 1878.

The spring of 1878 opened early, and my 50 colonies of bees came through all right. But during May and June they stored but little honey, on account of excessive rains. July was rather dry but there was much honey-dew on the hickory, and bees stored it fast, soon making their hives heavy. August with occassional showers, maturing vegetation, gave promise of a bountiful yield of honey in Sept.—usually the great honey storing month with us. But September was dry, and this with early biting frosts about the middle of the month, ruined the honey prospects; so that I extracted only 20 lbs. on an average from my 90 colonies; but my bees are all in good condition for winter. Buckwheat yielded no honey this season. Honey-dew and spanish needle were our main source.

LEE EMRICK.

Conventions.

The National Convention.

The following is the gist of the correspondence omitted, in the report of this Convention as given last month :

Statistics.

Rev. A. H. Hart, Appleton, Wis., says : "According to the best information I have been able to obtain, the product of this State is 850,000 lbs. of honey, and 8,250 lbs. of wax."

W. M. Kellogg, Oquawka, Ill., says : "The No. of members in the 'Western Ill., and Eastern Iowa Association,' is 79. No. of colonies of bees kept by its members May 1st, 1878, was 3,989. No. of pounds of honey gathered in 1877, was 144,000."

D. D. Palmer, New Boston, Ill., says he estimates that "in the State of Illinois there are 500 persons keeping bees; they have about 14,000 colonies, from which they receive about 500,000 lbs. of honey and 70,000 lbs. of wax."

John H. Keippart, Columbus, O., promises information soon.

Gen. LeDuc gives, as the "probable amount of honey produced in the United States, forty-five millions of pounds. In Kansas in 1872 the assessors reported 14,845 colonies of bees, with a yield of 133,384 lbs. of honey, or only 9 1-10 lbs to the colony."

Rev. M. Mahin, D.D., Logansport, Ind., writes: "I estimate the number of colonies in the State of Indiana to be about 570,000—yielding less than 25 lbs. per colony, the honey production of the State being 14,250,000 lbs. At 15c. per lb. this would amount to $2,137,500."

J. M. Shuck, Des Moines, Iowa, says : "The honey interest in our State is a large one, and should be properly organized, and if we had been blessed with county organizations or societies for the propagation of our interests, I believe a fine honey report from Iowa would have been promptly furnished."

New Comb Foundation and Machine.

Mrs. Frances Dunham, DePere, Wis., sent samples of her foundation, made upon a machine of her own invention and said : "I do not claim anything for it, only hope it will be an improvement. I beg you to judge the product, not the machine, which I do not consider perfect in working ; but expect my new machine to be so, and also am going to have the cells a little deeper, though of the same round form. I have not experimented with it at all in the hive, with the exceptions of the imperfect frame sent you, which I placed for my own gratification in the center of one of my strongest colonies, in the hot weather of July ; it was filled from top to bottom bar, pressed into place at the bottom. I have applied for a patent, not to make the price of foundation or machines higher, but because I hope to be allowed to benefit by what has cost me much thought, although I am 'only a woman.'"

Standard of Purity.

R. M. Argo, Lowell, Ky., writes : "I expect our National Convention, shortly to meet in New York, will be called upon to establish a standard of purity for Italian queens. I am in favor of some such standard if it can be made, but if they should undertake it at the next convention I fear they will find it rather a herculean task, as hardly any five or six prominent bee-men of long experience agree on the same test. Also, all who have imported queens direct from Italy know very well that they are several shades darker and that the bright color is bred in this country and does not come till the second or third generation. If the convention should establish a standard it will be properly called the American standard of purity of the Italian queen bees, and then when queens are imported by those who had never imported before, and their color is far below the standard of purity, what will they say ? Will they not say our standard is defective or their queens are hybrids ? Had we not better first settle the question whether there are hybrids in Italy, as I believe there are, and if it is a fact that there are hybrids in Italy, we will then be far better able to establish a standard of purity."

Bees in Italy.

Mr. C. J. Quinby, who had just returned from Europe being called upon by the President for a speech, said : "That he had visited nearly all the principal bee-gardens and queen-breeders of Northern Italy and was surprised to find their bees so black ; they were generally three-banded, but one had to look closely to see the bands. He had also thoroughly inspected all the apiarian displays at the great exhibition and pronounced them very inferior when compared with our own appliances for manipulating the bees and their products. He pronounced our 'American Italian bees' decidedly superior in all respects to anything he saw in Europe."

Bee-Keeping in California.

The settlement of California by white people has been so recent, and the peculiarities of its flora so different from most other parts of the world, that the introduction of many plants and animals common elsewhere but not indigenous here, has occurred within the memory of men of this generation, or the one preceding. While in other countries the knowledge and use of certain plants and animals extends back of civilized history, and in the United States, east of the Mississippi river, no exact date can be assigned to their introduction ; in California most of the cereals, the fruits, the domestic animals, and the enemies and diseases that attack them, can be traced to the exact date of their introduction, and in most instances the importor can be named.

The first settlers, in 1760, were the catholic missionaries who did most remarkable work in civilizing the Indians and introducing the products and appliances of civlization.

But among the many things brought by them, there is no record of the honey-bee, nor did any of the Spanish native residents

of California know anything of bees or honey until after the discovery of gold and the influx of "Americans," as people coming from our Eastern States were generally called.

The following letter gives the most reliable information I can obtain in regard to the first importation of bees. It is quoted from Harbison's "Bee-keepers' Directory; or, the Theory and Practice of Bee-culture," published in 1861. Mr. Harbison has been and is the most extensive apiarist on the Pacific coast; the inventor of a hive and section box for comb honey very generally in use here; has been constantly in the business for over thirty years and is generally known among bee-men throughout the United States.

A large part of this article is from his book or his personal experience since its publication. The letter is as follows:

San Jose, Jan. 11th, 1860.

"The first bees introduced into California was in March, 1853. Mr. Shelton purchased a lot, consisting of 12 colonies of some person, to me unknown, at Aspinwall. The party who left New York became disgusted with the experiment and returned. All of the hives contained bees when landed in San Francisco, but finally dwindled down to one. They were brought to San Jose and threw off 3 swarms the first season. Mr. Shelton was killed soon after his arrival, by the explosion of the ill-fated steamer Jenny Lind.

"In December 2 of the colonies were sold at auction to settle up his estate, and were bought by Major James W. Patrick, at $105 and $110 respectfully.

"Mr. Wm. Buck imported the second lot in November, 1855. He left New York with 36 colonies and saved 18. I purchased a half interest in them. I also, in the fall of 1854, bought 1 colony of Major Patrick, from which I had an increase of 2. Mr. Buck returned to the East immediately and returned in February, 1856, with 42 colonies of which he saved but 7. Our increase in 1856 from the 28 colonies was 73; we also had about 400 lbs. of honey in boxes, which we sold at from $1.50 to $2.00 per pound.

"Mr. Wm. Briggs of San Jose brought out in the spring of 1856, 1 colony from which he had an increase of 7 or 8 colonies the following summer.

"The above were the only importations I know of prior to the spring of 1857. There are in this county about 1,000 colonies."

F. G. APPLETON.

In November, 1857, J. S. Harbison started from Lawrence Co., Penn., for California, with 67 colonies of black bees. After a journey of 5,900 miles in 27 days, during which time the bees were allowed to fly out once, at Aspinwall, they arrived at Sacramento, California, reduced in number to 62 but as some of these were weak, they were united with others, reducing the number to 50. Some of these were sold, and the remainder, 34 in number, increased the following spring to 120 and were all sold but 6. The price realized was $100 per colony.

In December, 1858, Mr. Harbison started again from New York with 114 colonies, 68 from Centralia, Ill., and 46 from Lawrence Co., Penn., and arrived in California Jan. 1, 1859, with 103 colonies living, but owing to the season and unfavorable weather these became reduced to 62. From these and the 6 previously remaining, during the spring of 1859, the number was increased to 422 by "dividing."

Of these, Mr. Edwin Sherman took to Los Angeles county, in December, 1859, 24 colonies, which were sold and distributed in that and the adjoining counties, and their progeny furnished most of the wild bees of Southern California, as well as the basis of the recent increase in some localities.

In the fall of 1859 also, Mr. J. Gridley brought 4 colonies across the plains in a spring wagon, allowing them to fly out occasionally in the afternoon, and they arrived at Sacremento in good condition.

The success of these ventures induced other parties to import bees in large numbers, as many as 6,000 or 7,000 colonies being brought from New York to California in 1859 and 1860, but unfortunately "foul brood" was introduced with some of them and rapidly spread till the total destruction of bee-keeping was threatened and many persons lost heavily, the price rapidly declining from $100 per colony, till there was no sale.

Most of the apiarists had been located in the Sacramento and other large valleys, and the great floods of 1861-2, which destroyed so much property, swept away many apiaries; only a few, located in the mountains, escaped.

For several years bee-keeping was in very little favor, but little honey was put on the market and but few cared to keep bees for a business. In the southern counties that have since proved to be the best locality for bee-keeping in California, and taking into consideration all conditions of climate and flora productions, perhaps the best in the world, it had not then become a business; the few colonies that were kept on the ranches receiving very little attention. I have in my possession 2 of the original colonies brought down by Sherman, and sold to Col. C. J. Couts of San Diego county, and kept on his place until I acquired them in 1875. They still contained bees, but no attention had been paid to them, the swarms sometimes being hived, but allowed to run away and fill the trees of the mountains a few miles distant.

In 1860, Mr. A. J. Bigelow of Sacramento, left New York with 113 colonies with Italian queens raised by Mr. S. B. Parsons, of Flushing, L. I., and reached California with 111 in good condition. These were the first Italians brought to the State. In 1875 Mr. J. S. Harbison imported 20 carefully selected Italian queens, and from these two importations have been bred most of the hybrid bees now generally kept here.

After several years depression in the bee business, Mr. Harbison who had bred up a stock from the few that escaped foul brood and the inundation, heard that 3 colonies brought into San Diego county from Los Angeles, had done remarkably well, and determined to try establishing an apiary there. He and his partner, Mr. R. G. Clark, arrived in San Diego in November, 1869, with 110 colonies. The success of these both in increasing and in gathering honey

was so encouraging that they brought 154 more in 1871, and during several succeeding years Mr. Harbison brought down all his colonies, amounting to 1,000.

In 1870 these gentlemen commenced selling to other parties, and as it seemed a very profitable business, a great many persons engaged in it, until in the spring of 1876 the number of colonies of bees in improved hives in San Diego county alone, as returned to the assessor, was over 23,000.

The other counties of southern California also went largely into the business, Los Angeles county having 24,000, and San Bernardino, 6,000.

In 1869 one case of comb honey was shipped from Sacramento to Chicago, in the first car of fruit ever sent overland. In 1873 Messrs. Clark & Harbison shipped a full car load of 10 tons to Chicago. Previous to that, the local markets of California had consumed all produced at a good price, but the amount had then increased so much as to require a market elsewhere. Since, California honey has been shipped to all the markets of the Eastern States, and is known and generally liked for its color and flavor.

During the season of 1876, about 3,000,000 lbs. of honey were produced in California, of which San Diego county furnished one-third. Los Angeles and San Bernardino counties combined another third, and the rest of the State the remainder. This was the largest amount hitherto produced. It is too early yet to estimate the amount for 1878, but there will probably be less comb-honey, and more liquid honey than in 1876. In 1877 several causes combined to produce a disastrous result for the bee interest.

The winter or rainy season, was extremely dry; the spring was very cold and backward and the early summer exceedingly hot. The supply of honey was cut off, very few colonies gathered enough for their own use. The result was a very great mortality from starvation, amounting to one-half in San Diego, fourth-fifths in Los Angeles. Some owners saved their bees by feeding; others a part by distributing equally the stores among as many colonies as it would carry through, but no surplus honey was made.

The present season has so far been a good one, the spring was backward and cold, but the summer has been very favorable and bees have generally gathered more honey during July than in any previous year, but the great reduction in their numbers during the past year, will restrict the aggregate crop, though the average per hive will be large.

The number of colonies of bees in the southern counties of California, which embraces the greater portion of those in the State was estimated about 30,000 in March, 1878, and the increase this year will probably be fifty per cent. San Diego county has principally engaged in producing comb-honey while the others get liquid honey by extracting.

Southern California is peculiarly adapted to bee raising and honey producing for several reasons. The equable nature of the climate is a great advantage. The temperature seldom falls as low as the freezing point, and even frosts are uncommon. During the winter or rainy season, bees require no shelter, and can fly out more than one-half the time, indeed most of the time can find food. The summer is entirely dry, no rain, hail, or thunder storms interfere with the labors or breeding of the bees, or cause disease among them.

Feed is obtained during nine or ten months in the year and surplus honey gathered for four or five. There is a very large area of rough mountainous country, with small valleys, furnishing sites for small farms and apiaries while the mountains are covered with honey producing plants peculiar to this region, and never likely to be disturbed in their luxuriant growth. Among these are the following:

Manzanita, blossoming in February; alfilerea, in March; black sage, in April; wild alfalfa, in May; white sage, in June; California sumac, in July; greasewood, golden rod and blue curls, in the fall.

During a great part of the honey season the nights are foggy and damp and the days bright, warm and still, the most favorable conditions for bees to work and store honey.

In the work published by Mr. Harbison quoted from above, he says: "In California the quantity of honey gathered by a single hive in a year is greater, and the quality better than is usually found in any other country. Owing to the peculiarly dry climate the honey is more dense, weighing nearly one pound more per gallon than that usually made in the Atlantic States, in consequence of which it will keep good for years, and can be transported to the Atlantic cities and to Europe in prime order and at a profit to the producer. And the time is not distant when, if the business receives the attention it deserves, the export of honey and beeswax will be no inconsiderable item of revenue to the apiarist of the Pacific coast."

This was written nearly 20 years ago, and the writer has seen his prophecy abundantly fulfilled by the shipment of large quantities of honey from California to all parts of the world.

We labor under the disadvantages of distance from the great markets, the exhorbitantly oppressive freight charges of a railroad monopoly and some old fashioned customs; but we are making improvements in the spirit of the age, we are doing our part in opening up the markets of the world, and we hope to be able to get more reasonable rates of transportation.

While we do not wish to crowd out any one, we claim the right to place our product on the market in fair competition, trusting to its own merits to secure for us a reasonable compensation for our labors and investments.

Several of the counties of California have their bee-keepers' associations incorporated under the general law of the State, and they are doing much good in exchanging ideas and experiences and in combining for mutual interest in shipping, &c. Through their united action some salutary laws have been passed and some trade regulations established, and it is to be hoped that they and such associations—local, state, and national—will be warmly sustained and enabled to go on with their good work.

CHAS. J. FOX,
Pres. San Diego Bee-keepers' Association.

Italian Bees.

Bro. Bee-Keepers in the National Association assembled:

I know of no way to get at the above subject in a manner that will be more instructive to the inexperienced, than to simply give my experience with this race of bees. This experience will also explain my former writings upon the subject.

I began bee-keeping as a specialty in the spring of 1869. I began by purchasing 48 colonies of black bees, and one Italian queen, for which I paid $8. From this one I reared others, though only a few, and consequently my experience was mostly with the blacks. I rapidly learned their ways, and at the same time some of the disagreeable ways of hybrids. I next purchased one more queen at $2.50, and was quite pleased with her and her's, for a time, but more cross hybrids was the result. About these winters, bees in this part were dying to a great extent, in cellars, special houses, and on their summer stands alike. I noticed that the Italians withstood the disease much, yes, very much better than the blacks. I at once made up my mind to Italianize my apiary, and "done with it." I had about 40 colonies and I purchased a queen for every one of the 40 colonies, at $2.00 each. Now I had Italian bees, and an Italian apiary, and from that time I have wintered most of my colonies, while the blacks mostly died around me. But then came new trouble. I was producing mostly extracted honey, and these yellow jackets would not shake off the combs, but hang like "stick-tights." They would not work in sections till they had filled in too much honey below. Comb honey began to be the most profitable to produce, and I arranged for that, and horror of horrors! they could not build comb any where near equal to the black bees. Then I thought that the loud praises I had heard of them, was all "put on" for the gain in this traffic. Really indignant, I took up arms of ink against the fraud. No doubt many were caught by their beauty, and others carried on the deception for gain, but a few good, reliable bee-keeping friends still swore by the Italians, and I was induced to try them once more. I next bought 25 full colonies and some more queens, and at once I began to discover that I had a very different and superior race of bees to any I had ever owned or seen before, and also that they would go right up stairs and build more comb in the same length of time than the blacks would. That they were very much superior to the blacks, or my former Italians, as honey gathers (especially in the fall). I began disseminating their blood into my apiaries. In all my surplus honey of last year I found but one moth larva. This year in all the surplus from nearly 400 colonies, and most all comb honey, not one. The bees do not look like the former Italians I had had, or any I had ever seen, and now comes the best and most exceptional circumstance of all. The hybrids of these and black bees are just as good workers and amiable bees as the pure Italians. In one of my apiaries I still have a few of the old stock of Italians and the past summer their average yield was not to exceed one-third of that of the best colony. Producing honey—most of you know—has always been my favorite branch of apiculture. I must say that I am satisfied with my present stock, though "onward" shall ever be my motto, and I shall do my little might to still improve my bees by destroying the poorest and breeding from the best.

JAMES HEDDON.

Dowagiac, Mich., Sept. 25. 1878.

Extracted Honey.

Mr. President and Members of the National Bee-keepers' Convention:

The theme allotted me by your Executive Committee, is one of no small importance to American apiculturists. Especially is this true at the present time, when the general shrinkage of values, incident to a return to specie payments, is constantly lessening the margin between the actual cost of our production and the price they will command in our fluctuating markets; yet it is one that has, hitherto, received too little attention. In composing this subject we have availed ourselves of facts and figures. Everything in fact that had either a direct or indirect bearing upon result, and we herewith submit our deductions in the premises. While they do not leave as large a marg n for profit as we could desire, we feel that they are in accord with the facts in the case; and in submitting them for your consideration we court the fullest investigation of the positions herein assumed. Our only aim has been to correctly solve the problem, regardless of all other considerations.

One hundred colonies of bees are about all that can be profitably kept in one location, and will give one person full employment where the extractor is exclusively used for at least 150 days out of each year.

In the days of box-hives and black bees, before our late civil war, when gold was the basis of our currency, these 100 colonies were worth $500. At the present time, with Italian bees and movable frames, they will represent twice that amount, or $1,000. While in some isolated cases, bees may be purchased for less money. One hundred colonies arranged for the extractor with an extra set of combs are worth, or will command fully that sum. Suitable appliances for carrying on business will cost $500 more. This includes ground for a bee-yard, a bee or honey-house for storing honey in summer and protection of bees in winter, and all other necessary appurtenances. These two sums then will represent the investment. The interest, taxes, and insurance thereon, will amount to about 10 per cent., or $150; the labor required at $2.00 per day, will amount to $300 more, $450 in all. This much for the outlay. Now such an apiary will give an annual yield of 5,000 lbs. of extracted honey. But little increase of stock will be secured where the extractor is exclusively used—enough perhaps to cover losses in wintering. According to the above figuring the actual cost of producing extracted honey is 9 cents per pound.

In the foregoing calculation we have endeavored to avoid extremes, and thus obtain an averaged result.

There are localities where our apiary will produce a larger yield of honey, while in a great majority of cases a less amount will

be secured. There are seasons when honey is very plentiful, and an averaged location will exceed 5,000 lbs.; yet in 3 years out of 4 the yield will bring it down to this average. Labor can be procured for less than $2.00 per day, but the man who possesses the skill and energy to successfully manage 100 colonies of bees would command more had his attention been directed to other fields of labor. Money is worth but 7 per cent. in many States, while here in the West it readily commands 10, and taxes and insurance will make the latter figure an average.

HERBERT A. BURCH.

South Haven, Mich.

Hints to Beginners.

In offering a few remarks upon bee-culture, I wish to state in the outset, that I shall not present anything especially new or instructive to very many of those present. But I have endeavored very briefly to indicate for the benefit of beginners, some of the principles, a knowledge of which I consider indispensable to success in this calling. I shall not give any particular details of the practice, but simply offer a few hints, such as seem to me most important.

A question which naturally arises when we observe the large proportion of failures among those who undertake bee-keeping, is as to the cause or causes. These failures may, I think, be accounted for very easily, by any thoughtful bee-keeper of much experience. The old opinion, which ought, by this time, to be entirely exploded, that bees will generally take care of themselves and bring us fabulous returns for little or no investment of capital or labor, is still a stumbling-block to prosperous bee-keeping. Added to this are the deliberate misrepresentations of unscrupulous dealers, whose advertisements are sure to mislead the uninformed.

None of us like to parade our failures, our "bad years," before the public, and consequently the reports in the papers generally show only the bright side, and remarkable yields. Ignorance of the business, then, is responsible for a large proportion of ill success.

What, then, is essential? A thorough knowledge of the business; plenty of application and hard work. Do not begin where the individual did who once wrote us that he had decided to pursue bee-keeping, and wanted to know the price of a pair of bees to begin with. I maintain that it is as important to serve an apprenticeship at this as at any trade or profession. Much general and useful information may be obtained by reading the best works and papers on the subject, but actual practice in an apiary is indispensible. Many persons are naturally unfit for the business, from carelessness and inaccuracy about their work. I know of no out-door pursuit where so much depends on the right thing being done at the right time and in the right way. A willingness to work hard and a determination to succeed are characteristics of the prosperous bee-keeper.

WHEN AND HOW TO START AN APIARY.

Avoid the common blunder of rushing into bee-keeping just after there have been one or two particularly good seasons. The results of a favorable year are generally very alluring to beginners. The fact is that an extra good yield is usually followed by a very moderate or poor one, and the reverse. So, if one wishes to increase the chances of success in his first venture, he had better begin directly after a poor season. Beginners should purchase but a small number of colonies at first, and increase as experience and success will warrant. Obtain the best that can be found even at a greater expense. It will often prove a gain before the season closes. Spring is the preferable time to purchase bees, and if they are transported a long distance, they will be benefitted by the shipment. Use some practical form of movable comb hive, as otherwise the best results can not be realized.

FEAR OF STINGS.

A very great hindrance to the practical handling of bees is the fear of stings. Every beginner should supply himself or herself with a bee-veil, which will protect the face. A prime necessity, also, is a bellows smoker. This mode of applying smoke for quieting bees is being adopted by nearly all bee-keepers, and is proving invaluable. The extractor for removing honey from the combs without injuring them is a very important implement. Comb-foundation for the brood-chamber is underestimated by many. I anticipate for it a place by the side of the leading inventions of the day.

I have barely mentioned some of the most necessary fixtures of a first-class apiary, without which success can be but limited. But do not make the common mistake of thinking that securing these appliances will ensure success. They are only aids, profitable when intelligently used.

ITALIAN BEES.

The merits of the Italian bee are thoroughly established among enlightened bee-keepers. I can not, at this time, enumerate their special points of superiority, but earnestly advise a careful trial of both Italians and natives, that each may determine for himself which are best adapted to a particular locality. The truth that should stand out most prominently is, that a large force will do a large amount of work, and every effort should be made to secure a large stock of working bees.

A piece of drone comb two inches square in the center of the brood-chamber, is a small thing, yet it is a space in which every 21 days 200 worker bees might be raised. This is not all. If it is located at the center of the cluster there will often be a useless number of drones reared for this season, which are not only useless, but being consumers, are an absolute disadvantage. The management necessary to secure a large working force, is at the very foundation of success and is borne in mind by every intelligent bee-keeper during the entire year. The difference between a poor and good queen may be sufficient to make the difference between the failure and prosperity of a colony. Many practical bee-keepers fail to attach importance enough to the selection of proper stock from which to rear queens.

The problem of successful wintering has

probably been more difficult to solve than any other question of bee management. It is by no means yet reduced to a formula, and is made a subject of careful study and experiment by our best bee-keepers.

SOURCES OF INFORMATION.

I hardly need say where the most modern works and journals giving instruction upon these topics may be found. Every agricultural paper of to-day gives more or less space to this growing branch of industry, besides those exclusively devoted to it; and no bee-keeper can afford not to keep pace with the best ideas, to be found therein.

I urge the organization and attendance of conventions, where the ripest experiences of each may be presented, and all be profited by their discussion. L. C. ROOT.

Scientific Bee-Keeping.

READ BEFORE THE SAGINAW FARMERS' CLUB BY DR. L. C. WHITING.

In no department of rural affairs has greater progress been made of late years than in bee-keeping, though but few comparatively have kept pace with the onward march.

Some kind of a movable comb hive is indispensable for the modern bee-keeper. This hive must combine cheapness of construction with facility in the management of the bees. A large number of the most practical apiarists have adopted some form of the Langstroth or Quinby hive. With either of these hives, a full knowledge of the condition of the bees can be obtained at any time. The best hives in use can be made by any one, as they are free from patents.

The kind of bees you get is of much less importance, as these can be changed at any time by changing the queens. One thing is important, that they be strong colonies, and "no others should be tolerated." All the profit of the apiary comes from the strong colonies. If honey is the object sought, very little or no increase should be allowed. If multiplication of colonies is desired, the most economical way is to raise your queens, and as soon as they commence to lay, make the increase by division, rather than by natural swarming. Provide each of the new colonies with a laying queen. Keep those you expect to gather honey, strong in numbers and build up the new ones with brood and bees as they can be spared. Increase as early in the season as possible. You can raise queens as soon as the drones make their appearence, and the colonies are strong in numbers. There are various ways of raising queens, but perhaps as good a way as any for a beginner, is to stimulate the most desirable colony. The bee is as much subject to improvement as any of the animal creation. Care should be taken to breed only from the most desirable colonies, by feeding them regularly every day, a little honey or sweetened water, until they swarm naturally, then divide the old colony into as many nuclei as there are queen-cells. When the queen is hatched and commences to lay, build up, by giving them combs of brood and bees from others. This can be repeated as often as any colony is strong enough to get the swarming fever. If the bees are not strong enough to swarm, a few queens can be raised by placing one or two frames of brood with the bees adhering, to one side of the hive, separating them from the rest by a division board.

Care should be taken to make this division perfect, so that bees cannot pass from one side to the other, also to see that the queen is not on either of the combs, as well as to know that there are eggs and young brood in the combs. A separate opening for each apartment must be had. In ten days queen-cells will be found and can be placed in nuclei, for hatching. A careful bee-keeper will keep on hand a few young vigorous queens to replace any old or unprolific ones.

Which are best, the Italian are black bees? I prefer the Italians for the following reasons: They are less likely to sting while being handled. The queens are more easily found, seldom or never hiding; they are moth proof; they protect their stores more successfully from robber bees, and gather more honey in a poor season.

The black bees will store as much honey in a good season and are more easily induced to work in the boxes. The greatest danger of loss is in wintering bees. Seek security from this by having all colonies strong and well provided with good sealed honey. Sufficient air to carry off the moisture must be admitted to the hive, care being taken to have no draught through the cluster of bees. If wintered out of doors they should be examined often to see that the entrance is not closed. If all air is excluded they will quickly smother; 30 to 35 lbs. of honey will be required for out of doors and 10 lbs. less if wintered in the cellar. A good quilt or chaff covering is considered desirable over the frames, to let the moisture escape without making a draught of air through the cluster. Cover with the cap of the hive so as to keep perfectly dry. In the fall unite all weak colonies, and thereby save bees and honey. A small colony will require as much honey as a large one, and is very likely to be lost.

The market demands comb honey in small frames or sections, so that it can be sold without breaking bulk; extracted honey by the pound or gallon. The demand for the extracted honey, is increasing, as the people are fast becoming aware of its cheapness and purity.

The best time to handle bees is in the middle of the day when the old bees are out gathering honey. There are then fewer bees in the way and the young bees are not inclined to be cross. If possible avoid opening hives when robber bees are troublesome. The most desirable location for an apiary is where blossoms are found in the greatest variety and abundance. In this part of the State white clover and basswood furnish the main crop, buckwheat and fall flowers furnishing an abundance for their winter stores.

With frame hives and comb foundation the amount of drone comb can be regulated. The foundation with small wire worked into it, is preferable as it will not sag. Use

comb foundation only in the body of the hive. The starters in the boxes, should be of clean white comb, fastened with white glue.

The most profitable time to feed is in the spring and summer when blossoms fail. Feeding induces the queen to lay, and the bees will raise the brood for the coming harvest. The more bees, the more honey.

Care should be taken during the season that the queen has room in which to deposit her eggs. For this purpose the extractor should be used freely. It will be found a gain, even if you have to feed the honey back again to keep the queen laying. As it is desirable that there should be but little unoccupied room, the hive should be supplied with a movable division board.

As the colony increases in size, the board can be easily moved. The tools required for a beginner are first a good manual. A. J. Cook's, of the agricultural college of Lansing, is the latest and best; a honey extractor; a Bingham smoker; a Bingham & Hetherington honey knife; a bee-veil, and tools enough to put hives and boxes together.

The old secret of handling bees with safety, was to alarm them in some way so that they would fill themselves with honey, when they are peaceable, like a natural swarm in swarming time. Bee-keepers use smoke for this purpose. If you have but a few colonies, a small stick of half-rotted wood lighted so that the smoke can be blown amongst them will do, but a good Bingham smoker will save much time; don't fail to get the largest size. One of our best bee-keepers says that the great secret in successful bee-keeping consists in knowing how to keep all colonies strong. To this might be added: Doing the right thing at the right time. Don't cherish the idea that you can keep bees without work. Don't be alarmed if you get stung; pull out the sting as quickly as possible, blow a little smoke over the place and go ahead, you will soon get used to it.

One very important item is to take the AMERICAN BEE JOURNAL. It is worthy of the patronage of every bee-keeper in the land. With these few hints permit me to close, hoping they may assist the beginner in apiculture.

☞ The Central Illinois Bee-Keepers' Association held its semi-annual meeting Oct. 31st, 1878, at Hillsboro, Ill.

Dr. Hobson, of Irving, being called upon, addressed the Convention, showing the necessity of feeding bees during the wet and cold weather in spring, and severe drouths of summer. They require it as much as any other stock, if strong colonies are desired. He thought many hives too large; 1,800 cubic inches are sufficient for brood chamber. The best place for the surplus honey was over the frames. This season was not favorable; from 22 colonies he got but 1,200 lbs.

Mr. Welcher had 65 colonies in spring, and increased to 145. From these he obtained 7200 lbs. extracted, and 1800 lbs. comb honey.

Dr. Allen, of Greenville, said bees had been almost a failure this year with him. He was successful in wintering bees by covering completely with hay or straw.

Mr. J. H. Shimer, the President, had 40 colonies in the spring; they did nothing till August, when he moved them 12 miles into the country. In Oct. they had stored 2,000 lbs. in 1-lb. sections, which sold readily in St. Louis at 20 cents per lb.

Annual meeting will be held at Hillsboro, Ill., April 1st. WM. J. JACKSON, *Sec.*

HONEY SHOW.—Mr. M. W. Carrott made a very fine honey exhibit at the Quincy, Ill., Fair. The *Western Agriculturist* remarks that Mr. C. is "a great admirer of bees, and as successful as the most enthusiastic amateur could wish. His hives are of modern construction. Commencing with common bees, he Italianized them by giving them tested Italian queens; his colonies are now strong, and have been active workers, having filled the prize boxes with the finest honey; he has also taken large quantities from the frames with the honey extractor."

Local Convention Directory.

1878. *Time and Place of Meeting.*

Dec. 3.—Montcalm County, at Carson City, Mich.
4.—Michigan State, at Grand Rapids, Mich.
17,—Northwestern Illinois, at Shirland, Ill.

1879.

Feb. 14.—South-Western Ohio, at Lebanon, O.
April 1,—Central Illinois, at Hillsboro, Ill.
May 6.—Albany County, N. Y., at Clarksville, N. Y.
6.—Central Kentucky, at Lexington, Ky.
28.—North-Eastern Wisconsin, at Hartford, Wis.
Oct. 21.—National Convention, at Chicago, Ill.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

☞ New subscribers for next year will receive the December number free, as long as it lasts. So make up clubs at once. Our clubbing rates with other papers for next year will be as follows:

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Bee-Keepers' Magazine	3 00	2 50
The three Bee papers of U. S.	4 00	3 25
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All four—British and American	6 50	5 00
American Poultry Journal	2 75	2 50
American Agriculturist	3 00	2 50
Ohio Farmer	3 50	2 85
Moore's Rural New Yorker	4 15	3 65
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For the convenience of bee-keepers, we have made arragements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

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☞ We shall give more of the statistical table next month. Those who have not reported yet should do so at once, and include the proceeds of the whole season.

☞ The National Convention ordered to be printed 1000 copies of the address to "Honey Producers and Consumers," found on page 394. Bee-keepers were expected to get them, and personally ask the editors of the local papers to publish them. They are now ready and will be sent to those desiring them, either from this office, or the Secretary, Dr. Parmly, of New York.

☞ We have received a copy of "The Amateur's Hand-book of Practical Information for the Work-shop and the Laboratory." It is a ten cent book containing information on almost every subject, and is published by the Industrial Publication Co., New York.

INSECTS ON FLOWERS AND HOUSE-PLANTS, AND HOW TO DISTROY THEM —Is the title of a valuable little book. It tells how to fertilize and stimulate plants, the experiences of cultivators in keeping their plants healthy. Among the topics are these: "*Red Spider*," "*Aphis*," "*Green Fly*," "*Worms in Pots*," "*Rose Slugs*," "*Rose Bugs*," "*Snails*," "*Caterpillars*," "*How to Destroy Insects on Garden Fruit Trees and Vegetables*," etc., etc. It is exceedingly valuable also to Housekeepers, as it tells all about "*Ants*" and all *House Bugs*. It will be sent to any address for 30 cents, by mail, postpaid, by the publisher, Henry T. Williams, N. Y.

☞ In writing to this office, please do not mix business matters up on the same sheet with articles for publication. It is very inconvenient. Write it on separate sheets, so that the business matter can go directly into the hands of the business manager, and that for publication to the editor—two different persons.

A FARMER'S PAPER.—We ask attention to the card of *The Ohio Farmer*, of Cleveland, O., in this issue of our paper. It is one of the oldest and most valuable agricultural papers in the country. We club it with the BEE JOURNAL for $2.85.

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Michigan State Convention.

The annual meeting of the Michigan State Bee-Keepers' Association will be held at the Supervisors' Hall, on corner of Lyon and Ottowa streets, in the city of Grand Rapids, Mich., commencing Dec. 4th, 1878, at 2 o'clock p. m., and continuing two days. More than a score of the prominent bee-keepers of Michigan will take part in the programme, and nearly every branch of bee-culture will be considered by those specially proficient in the several branches. Valuable articles from several of the most extensive bee-keepers in the United States are also promised, and the session promises to be more interesting and valuable than any yet held. A cordial invitation is extended to all in any way interested in bee-culture to be present. The following are the names of some of those who will take part in the exercises:

R. M. Argo, Ky.; Fisk Bangs, Lansing; H. A. Burch, South Haven; M. S. Baker, Santa Monica, Cal.; Mrs. L. W. Baker, Lansing; J. Butler, Jackson; Frank Benton, Detroit; T. F. Bingham, Otsego; Prof. A. J. Cook, Lansing; Miss Davis, Delhi; James Heddon, Dowagiac; O. J. Hetherington, Saginaw; Capt. J. E. Hetherington, N. Y.; R. F. Kedzie, Agrtcultural College; C. F. Muth, Cincinnati, O.; T. G. Newman, Editor of AMERICAN BEE JOURNAL, Chicago; J. H. Nellis, N. Y.; J. L. Peabody, Denver, Col.; D. Palmer, Hart; Hiram Roop, Carson City; B. W. Southard, Kalamazoo; J. H. Townley, Tompkins; Paul L. Viallon, La.; Dr. Whiting, Saginaw: Miss L. A. Wilkins, Farwell.

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A. B. CHENEY, Pres. Mich, Bee-Keepers' Ass'n.

Gibsonburg, O., May 17, 1878.

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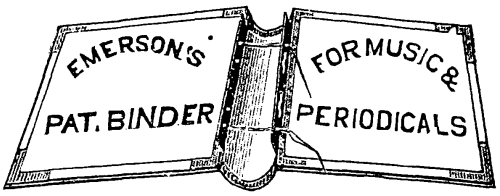

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INDEX TO SUBJECTS.

ADAPTATION to the business..46, 194

ADULTERATION.....28, 29, 36, 90, 391
of honey—how to prevent it..8, 125
how to detect it.....210, 394
harmless (?) 104
sent to England.....29, 133
California law 64
Kentucky law 232
crystal honey fraud..... 66
of table syrups.....28, 127
of sweets.....275, 317, 352, 429
petition to Congress against, 200, 211, 394, 397, 408, 429

AFRICA—the Bee Journal in.... 178

ANTS—how to get rid of..... 298

APIARY—how to start..... 447
Cook's Manual for the..66, 138, 174, 271, 283, 295
Italianizing.....151. 282, 353, 401
keeping record of 158
Neighbour's work on..... 29
Report of Michigan College .. 77
Dr. W. W. Hipolite's..... 255
J. Oatman & Son's..... 312
T. S. Bull's 312
George Grimm's, damage to... 289
several in Henry Co., O..... 350
J. H. Nellis' 351
D. D. Palmer's..... 351
E. C. Jordan's..... 255
C. E. Sweetzer's 367
robbery of the Journal's..... 406

APHIDES, or plant lice..... 307

APIS DORSATA—
15, 18, 39, 46, 58, 96, 414, 417

ARSENIC, used in making sugar. 8

ATOMIZER, for spraying bees... 212

AUGUST—seasonable hints for.. 258

BARRELS—for shipping honey.8, 232
coating with wax 37, 323
McMaster's compound for.... 215

BARON VON BERLEPSCH.....95, 108

BEE CULTURE, for ladies..... 142
new work on 324, 412
college class on..... 216
rise and progress of..... 379
science necessary in 86, 438

BEE ENEMIES 95, 316, 343
brimstone pits in France 95
parisites 65, 165
rats and mice..... 217

BEE FEEDERS....141, 146, 259, 264, 331

BEE HOUSES.....9. 21, 28, 203
ventilation of..... 123
how to get bees out of..... 420

BEE JOURNAL—abroad 330
review of a year's work 411
appreciated..9, 10, 54, 97, 134, 146, 147, 208, 236, 242, 244, 278, 282, 284, 295, 321, 323, 361, 372, 402, 439

BEE POISON—use for medicine. 13
tea made of..... 313

BEE STINGS—how prevented.21, 331
cure for rheumatism.....218, 258
horses killed by.....178, 253, 354
remedies for.....271, 364, 402
protection from 46
are lost when used..... 264

BEGINNERS, hints to..... 437
experiences of..81, 155, 272, 322, 437
botany for 7

BEE KEEPING—in Minnesota..42, 161
Southern Wisconsin..... 213
Canada..... 216
Colorado.....217, 257
Western Michigan 180
Northern Michigan..... 239
Australia..... 270
England and Wales..... 292
Tennessee 69
Alabama 306
California 433
Texas..... 157
Louisiana 383
Russia and Greece.....374
ladies engaged in..... 334
superstitions of the past..... 330
secrets of success.....14, 91, 133
a national industry..... 11
as an avocation.....42, 400
requires science 75, 95, 370
on roofs in cities..... 173
ladies' bee dress..... 50
a source of wealth.....229, 296
interesting facts..... 377

BEE PASTURAGE..83, 205, 267, 387, 401
in the South 267, 421
European seeds for..... 137
will it pay to cultivate ?..... 89
interesting report on all plants 80
discussion on 395
description of asters 373, 415
alfalfa..... 205
aspen..... 431
alsike clover 323, 373, 431
basswood 12, 307, 432
boneset.....150, 339
buckwheat..... 205
buffalo clover..... 218
catnip 64
cleome.....137, 182
cherry laurel..... 220
figwort..... 134
furze 134, 188
golden rods.....329, 373
Judas tree..... 163
lion's ears..... 415
melilot clover 102, 179, 284
mignonette 26, 47, 55
motherwort.....310, 422
mountain mint..... 384
Norway maple.....28, 126
ox-eye daisy 416
partridge pea.....321, 373
peach..... 137
poplar 12
red clover 205, 431
sourwood 253
teasel.....5, 10, 131, 179, 213
tulip 12
varnish tree..... 243
white clover 12
willows 151, 322
wild grape..... 218
wild onion..... 310
wood sage..... 283

BEES—by mail.....7, 29, 294
swarming in winter 27
is handling injurious ? 21
are they profitable ?..... 266
beseige a city 347
with wasp-like bodies..... 374
races in Africa and Asia..... 396
best time to handle 438
anger of 293
bag-pipe species..... 40
bibulous species..... 74
without hives, in open air..... 96
curious hiving of..... 294
in Scott county, Iowa..... 159
gathering honey from cider... 167
leaving their hives and queens 182
marking their locations..... 416
brush for use on combs..... 141
eaten by frogs..... 217

BEES—*continued.*
do they injure fruit ?..... 49
battle with geese..... 339
grasshoppers, dialogue with... 256
Hannemann's sieve for..... 271
improving the race..153, 265, 305 400, 433
working on buckwheat..... 22
queens reproducing..... 278
Italians—activity of..... 38
purity of queen...10, 151, 316, 427, 430
workers.....150, 316, 427, 439
sent to Java..... 40
desirable 169, 438
first importation of ..186, 396, 434
vs. blacks..27, 113, 116, 189, 199, 275, 308, 361, 436
bright or dark..... 265
in Australia..... 269
a plea for..... 274
with beauty-spots..... 289
merits of..... 437
eating larva (?) 147
new races of..... 14
overstocking 49, 56, 88, 342, 398
railroads object to carrying... 96
spring dwindling of..74, 75, 160, 209
and St. Valentine's day..... 33
toads eating bees..... 203
tailor-bee, description of..... 373
transferring 38, 321
catching wild bees.....203, 309
wren as a protector 309
how to subdue..... 420
new work on..... 422
Mrs. Cotton's claims..... 406

BEESWAX used in varnish 37
Peter the Great, statue of..... 37
extensive use of..... 260
largest consumers of 302
ointment for hands and lips .. 320
60 tons sold in Portugal..... 374

BROOD prevented in surplus.... 401
how to get it started early..... 90

CALIFORNIA—honey in.....144, 215
product of 259, 277, 278, 295, 336
the season in..... 256
bee items from 240
bees and hives in Southern ... 183
frames, description of..... 55
objections to..... 26

CANDIED HONEY—
how to liquify. 9, 260
how to market..107, 125, 145, 290, 328
is it a test of purity ?..... 354

COMB FOUNDATION for starters 14
advantageous..22, 23, 116, 169, 277, 298, 402
will bees thin it ?..... 26
should not be used in surplus honey..14, 87, 92, 93, 94, 235
a success.....79, 298, 319, 323
desirable for brood chamber.. 94
sagging of..... 93
wire used to prevent sagging, 107, 237, 353
made on linen cloth.....104, 419
plaster mould for..... 130
cutter and board for..... 141
how to fasten it 142, 175
how much to use..... 202
dipping board for making 193
paper and thread incorporated 272
not to be called artificial..... 293
flat bottomed cells to 331
in Germany 374, 413
introduced by Mr. Hoge..... 64
Betsinger's experience with.. 393
Dunham machine for making. 433
bright wax sheets for 272
Kretchmer's experience with. 427

CAPPING CELLS, new plan..270, 414

CHAFF from Sweet Home,...347, 418

CHIPS from Sweet Home..46, 81, 123, 155, 193, 225, 233, 261, 315, 351, 418

CERESIN WAX—description of.. 254
not to be used in foundation.. 254

COMB HONEY—
rack and separators..... 239
Dr. Southard's rack 17
rack for Langstroth hive...157, 314
American hive..... 219
Dunham's..... 210
tiering up 239
as made by T. J. Dodds..... 416
must be made attractive..... 26
increasing demand for.....201, 296
management of.....14, 44
should be ripened before marketing.. 45
how put up in California 296

COMES—wax for fastening 38
production of wax for 23, 103
cost of, in honey consumed... 150
to keep moths out of..... 151
attached to an apple tree..... 369
bees refusing to build..... 415
how to secure straight.....22, 416
preservation of empty 182
moldy combs..... 221
natural for starters.....10, 54

CONVENTIONS—desirable....226, 382
benefits of 92, 199, 362, 377, 407
county associations advisable 279
notices in tabular form..... 335
by-laws of local..... 7
British, and bee show..... 337
Austro-German.....67, 372, 341
North American..142, 252, 291, 318, 373, 377, 407, 432, 433, 440
North-Eastern.....13, 89, 113
W. Ill. and E. Iowa..19, 45, 171, 198
Northern Missouri 23
Michigan.....25, 49, 168, 441
North-Western Ohio....48, 167, 399
San Diego Co., California..... 111
North-Western Illinois 114, 221
Bremer County, Iowa..... 167
Los Angeles Co., Cal.....192, 221
New York City..... 196
Albany Co., N. Y.....197, 400
North-Eastern Wisconsin.198, 320
Southern Kentucky.....203, 367
Central Illinois.....207, 439
Lancaster Co., Penn ..224, 283, 341
Central Kentucky.....226, 320, 401
Kansas.....252, 397
South-Western Ohio..... 360
Northern Missouri..... 398

CORRESPONDENCE—14 to 17, 41 to 47, 70 to 82, 118 to 131, 155 to 164, 183 to 193, 232 to 241, 261 to 281, 307 to 320, 343 to 357, 377 to 401, 419 to 431

CYPRIAN BEES..138, 234, 237, 271, 278, 290
the home of, described....281, 365

DEATH of R. C. Otis..... 233
Dr. J. P. Kirtland 34

DECEMBER—seasonable hints .. 410

DIVISION—of colonies....49, 77, 110, 224, 274
boards 99, 125, 161, 208, 285

DOOLITTLE—Novice answered.. 70
apology of Novice to..... 122
fancy crate in Europe..... 217
regular correspondence 331
report for the season..... 349

DRONES—white-headed 179
importance on progeny..... 18
worker eggs laid in drone cells 220
do not gather honey..... 264
wholesale destruction of 264
light colored..... 376
Brooks' fancy stock..... 273

EXPORTATION—of honey..36, 37, 179, 258, 260, 394, 410
severe handling in transit..... 106
from California to Germany.. 410

EDITORIAL ITEMS—5 to 7, 27 to 34, 63 to 68, 101 to 107, 137 to 145, 173 to 180, 209 to 217, 251 to 259, 289 to 305, 327 to 337, 365 to 372, 405 to 411
notes of travel by editor ..370, 372

EXTRACTED HONEY.....9, 190
in San Domingo 8
management of.....25, 111, 370
produced in California..... 111
how to strain it.....219, 278
increasing demand.....221, 231
unripe if not capped..... 277
not same as strained honey... 304
cans for shipping..... 330

EXTRACTOR—when to use...154, 203
its use in brood-nest..... 161
essential features of..... 169
invention and use of..... 186
Muth's patent on..... 402
different kinds described..139, 140, 177, 257
for wax.....212, 319, 333

FEEDING BEES—in transit..... 258
how to do it in the spring..... 341
for storing in surplus 220

FERTILE WORKERS ...19, 45, 116, 153, 200, 282

FERTILIZATION—attempted in confinement..13, 41, 118, 189, 384, 414
witnessed by Dzierzon..... 40

FLOATING APIARY..101, 136 232, 238, 293, 335, 367
ancient migratory trips 30, 181

FOREIGN NOTES...13 to 18, 39, 40, 95, 96, 108, 181, 182, 269 to 271, 297, 298, 337 to 340, 374, 413, 414

FOUL BROOD.....102, 114, 190, 251, 323
how to cleanse hives..... 146
remedies for.....212, 241, 269

FRAMES—large or small ?..... 278
which way to run..... 175
distance between..... 282
block for making..... 336
Kretchmer's bearings for..... 234
passage-ways over..... 362
Valentine's stand for 278

GLUCOSE—how manufactured.. 12
unwholesome.....35, 391, 392
honey adulterated with..... 394
unfit for feeding bees....90, 200 317, 369, 375, 392, 405

GOODS—the cheapest not often best 178

HIVES—which way to face 22
their name is "legion"..... 160
which to adopt..... 170
ventilation of.....219, 222
discussion upon in Germany.. 108
are large or small ones best ?.. 110
measurement of Langstroth's. 427
is shading necessary ?..... 42
sliding bottom boards..... 175
why bees desert them..... 221
rotary, as made in Germany.. 297
an old, old one..... 309
are any moth-proof ?..... 402
entrance regulator 259, 273
apparatus for hiving..6, 64, 139, 178
Langstroth.....139, 232, 333, 427
double Langstroth..... 63
new Langstroth.....177, 333
as made by John Roberts..... 67
A. H. Russell 80, 159
Wm. Thomson..... 140
N. C. Mitchell 152, 130, 145, 319
Novice 130
Wm. Cam 157
E. France..... 184
Oatmans' Modest..... 139
North Star 141, 146, 172
Concord 170, 172
Armstrong's Centennial...209, 332, 333
Hill's winter bee-hive..... 282
suspended on scales 79

HONEY—Is it made or gathered? 342
used in manufacturing 137, 371, 399
cost of production..... 436
sold at hard times prices....71, 73

HONEY—*continued.*
large yields 20, 45, 397
California yield.....67, 111
"hot," how to cure it 172
Cuban and Southern 106, 296
freight charges on.....106, 107
yield per hive..... 120
from golden-rod..... 144
used at Jewish feasts 144
in Switzerland hotels 144
from white clover..... 192
sold on commission..... 213
creating a demand for..28, 52, 129, 327
used in preserving fruit 217
how to separate from wax..... 217
receipts for cooking.....243, 303
fermentation prevented..... 327
season's results.....236, 328, 414
280 lbs. from one hive..... 360
the best always demanded 334
gold medal award..... 36
should always be graded 8
vinegar recipe 10, 297
carrier 7, 35, 106, 141
transportation cans..... 141
jars, corks and labels for 5, 66
knives—Bingham & Hetherington's 252, 290
tin pails and jars 203
cans, sizes and prices of..... 221
future for producers..... 120
Detroit dealers.....52, 158
an unmailable article..... 369
knives unmailable..... 33
store in a dry place 22
supply and demand..... 73
selling and shipping..... 368
sale of tons of..... 370
wonderful cave of 138

HONEY BOXES.....24, 81, 206, 368
what kind to use.....22, 200
how to get bees out.....20, 260, 343
glassed or not.....24, 72, 91, 149, 169
single combs best.....26, 107, 111
not use foundation in..... 87
spaces between..... 149
all in one piece.....176, 368
made all of glass..... 212
queen laying in..... 277
Moore's with cap.....236, 280, 365
large boxes undesirable..... 400
1 lb. sections too small.....25, 371
of forty years ago..... 210

HONEY MARKET—how to establish..... 417

HONEY AND BEE SHOWS....328, 354, 369, 374, 378, 409, 439
British.....292, 294, 338
medals for prizes..... 328
wonderfully attractive 325
why not more general 353
progressive ideas about....366, 431
Winfield's prize "pillar"..... 368

HONEY—as food and medicine.. 105, 129, 170, 176, 207, 208, 235, 293, 378
for dyspepsia, colds, etc....209, 260
its use in cooking.....243, 303
lecture by the editor on..... 176

HOG CHOLERA—cure for..... 42

INCREASE—prevention of....97, 398
best method of 168

ITALY—are black bees there?.124, 162
C. J. Quinby's visit to... 433
S. B. Parsons' visit to..... 396

LANGSTROTH, Rev. L. L., restored to health 409
visit to Prof. Cook..... 405

MARKETING HONEY—8, 26, 34 to 37, 39, 79, 106, 107, 116, 117, 143 to 145, 203, 260, 296
needs personal attention..... 14
co-operation desirable..... 92
should be assorted and labeled 145, 231
small crates sell best.....162, 392
must be attractive 194
sales ruined by inexperienced 14, 37, 41, 109, 117
veneering should be discountenanced.... 144
in Boston, Mass.....37, 145, 296

MARKETING HONEY—*continued.*
encourage and work up local trade....57, 170, 226, 236, 260, 368
in Cleveland, Ohio..... 296
in Great Britain 296
overstocking improbable 12
straw packing injurious..... 408

MELIPONES — an hymenopterous insect.. 252

MOTH WORMS AND MILLERS.. 24, 200, 220, 436

NOVEMBER—seasonable hints.. 366

NOVICE—Encyclopædia.....33, 333
on the war-path.....142, 180, 325
Burch's reply to 163, 192
Winder's reply to 180, 269

OUR LETTER-BOX..9, 10, 13, 54 to 58, 97 to 99, 132 to 134, 145 to 152, 206 to 210, 242 to 245, 282 to 285, 321 to 323, 358 to 362, 402, 403, 431, 432

PAINT—on inside of hives 203

PARIS EXPOSITION 6, 96, 218, 299
honey show 37
directions to exhibitors..... 18
Elwood's honey exhibited..... 106
gold medal award 369

PATENTS—something about 179
why obtained on smokers..... 71
THE JOURNAL not interested in any 172
Quinby hive not patented..... 327

PETRIFIED honey comb.....372, 407

POLLEN—flour of peas..... 95

POSTAL peculiarities....255, 332, 366

PRIZE BOX—description of.6, 28, 313
inventors of 34
should it be glassed ?..... 24
how to use it..... 156
adopted in Oregon 91
case to hold it on hive..157, 234, 313
how *not* made..... 296

PRODUCERS and Consumers—address to..... 394

QUEENS, unmailable..68, 119, 143, 314
rearing.....87, 200, 206, 210, 318
supersede non-layers 218, 220

QUEENS—*continued.*
duplicating themselves 290, 349
laying eggs at will..... 297
purity of.....310, 400
strange freak of virgin..... 321
large, handsome, prolific..... 323
seven in one hive..... 332
selection of best at sight..... 333
introduction of..19, 45, 114, 119, 206
Scovell's cages for 179, 215 259
how to clip their wings..... 10
how to produce good.....86, 399
stung but not killed..... 197
how to know when absent..283, 318
two in one hive.....39, 319
how to keep surplus..... 154
mothers, not rulers 264
sometimes lay before mating..264
when cells are started..... 19
when cells may be transferred 45
when cells will not hatch..... 210
returning them to colonies.... 279
impregnation while swarming. 114
untested condemned ...48, 368, 395

REVIEW of a year's work..... 411

RIGHTS of Inventors.....31, 170

ROBBING.....116, 121, 158, 163, 202, 209
drones not robbers..... 219

SAW—hand circular rip.....105, 179
foot-power circular.....148

SARTORI'S MANUAL in Italian. 289

SEPARATORS—their use ..17, 149, 202

SHIPPING—crates..6, 35, 45, 64, 69, 72
honey to England..... 36
two tiers of boxes..... 36
with top-bar downwards..... 327
goods by express 294

SMOKERS—rights of inventors.. 71, 188
Novice's inferior 31, 64, 148
different kinds described..68, 142, 146, 176, 193, 213, 214, 277, 301, 409
how to operate them..... 256
early invention of..... 186

SOUTHERN NOTES..11 to 13, 38, 39, 69, 109, 110, 152 to 154, 305, 306

STATISTICS..49, 115, 159, 185, 280, 341, 355, 433
lessons from.....328, 419, 420

STANDARD of Purity..177, 212, 216, 220, 252, 268, 273, 311, 314, 323, 345, 347, 348, 350, 354, 378, 395, 399, 430, 433

SWARMING—not induced by the queen..... 16
methods of.....20, 45, 116, 154, 276
how to prevent..22, 90, 133, 166, 185, 192, 200, 398
origin of bell-ringing..... 182
often uncontrollable..... 282
division of colony preferable. 343
preparation of nuclei..... 329

SWARMS—which way they fly... 22
amusing incident..... 76
select a place in advance..... 342
what to do with surplus..... 50
brought down by mirror 143
two issue within two days..... 218
does old queen always go with? 234
returning second swarms..... 277

TIN CORNERS 214

TREMONTANI'S business tact... 255

UNITING COLONIES....19, 45, 154, 221

USEFUL IMPLEMENTS 323

WINTER—moving bees in 49
cleansing flights during..... 76
preparation for...9, 97, 116, 150, 191, 343
time of preparation for..... 221

WINTERING....5, 17, 21, 27, 42, 48, 109, 158, 159
in cellar.....51, 77, 97, 98, 207
Betsinger's plan criticised..... 43
cellars *vs.* summer stands..... 44
experience with chaff...51, 132, 133
use of quilts in..... 52
in a cave.....54, 77, 151, 168
on summer stands.....75, 321
how to keep quiet in cellar.... 102
in California in 1876-7..... 111
position of honey in brood nest 114
pure honey for food..... 132
in France and Germany 182
use of oat straw in..... 358
H. H. Flick's system of..... 389
Garrett's plan of..... 421

ZELL'S ENCYCLOPÆDIA 261

INDEX TO ILLUSTRATIONS.

Atomizer for spraying bees..... 212
Armstrong's Centennial hive.... 332
Bingham's smoker..... 32
Betsinger's prize box..... 34
Bee showing wax formations ... 103
Bee parasite—the oil beetle..... 65
Block for frame making..... 336
Bingham & Hetherington honey knife..... 290
Case of prize boxes for Lang-
Carlin's foundation cutter 141
Case of prize boxes for American hive 156, 314
Comb honey Rack for Langstroth hive 157, 177
Chaff division boards 125
Cotton as a honey plant..... 251
Chateau de l'Insect at Paris 299
Comb honey rack for Centennial hive..... 332
Dodd's comb honey rack 432
Detached sliding bottom-board. 175
Everett's honey extractor 139
Excelsior honey extractor 257
Frame for cutting foundation dation starters..... 141
G. T. Wheeler's sectional boxes. 35
Harbison's California sections.. 55
Heddon's shipping crate..... 72
Hand circular rip-saw..... 105
Hill's wax extractor..... 333
Kretchmer's metal frame bearings 234
Langstroth frame with separators 17
Langstroth frame with 1-lb. sections 18
Lecanium tulipifera 308
McDougall's honey extractor... 140
Motherwort (3 illustrations).310, 311
Moore's sectional boxes and separators 236
Novice's chaff cushion..... 18
stroth hive 28, 313
Novice's bellows bee-smoker.... 31
Novice's queen cage 215
North Star Hive..... 141
New Quinby smoker..... 142
New Langstroth hive 177
Okra as a honey plant..... 251
Oldham's swarm catcher 348
Perfection honey box..... 280
Prize shipping crate..... 45
Porter's shipping cases 125
Plaster of Paris plates for making foundation..... 130
Porter's comb honey rack for tiering up 240
Petrified honey comb..... 407
Quinby's old smoker 32
Sutliff's bee smoker..... 213
Scovell's queen cage..... 215
Sunflower as a honey plant..... 251
Sour-wood leaf and bloom..... 253
Swiss wax extractor..... 312
Shuck's bee feeder..... 331
Stinging bug (8 illustrations.).... 343
Teasel as a honey plant..... 131
Tulip tree 137
Valentine's queen stand..... 279
White sage of California 2
White's honey extractor 140